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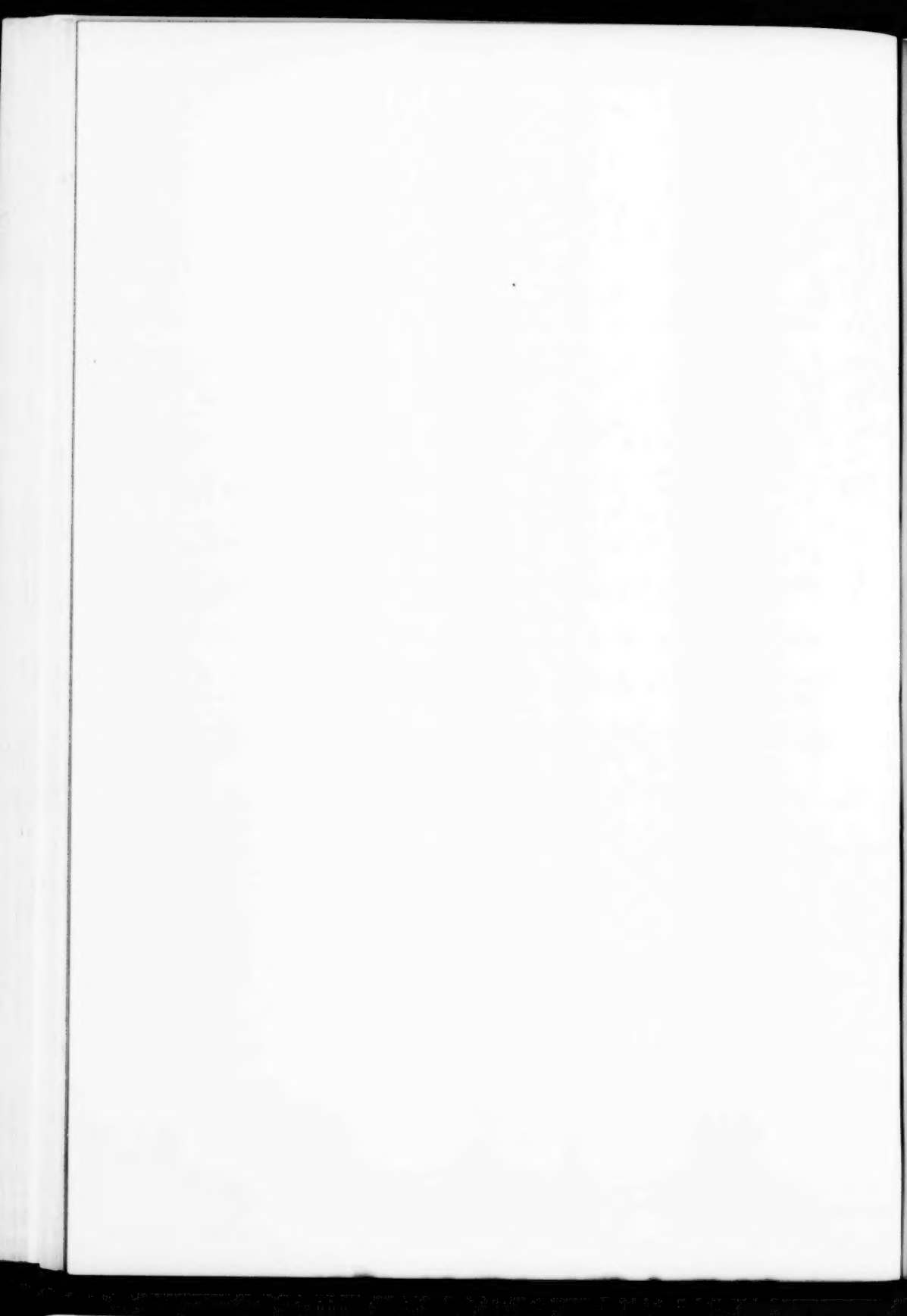
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MALARIAL TREATMENT FOR GENERAL PARESIS IN THE PRESENCE OF PULMONARY TUBERCULOSIS

BY HYMAN PLEASURE, M. D.

STATEMENT OF THE PROBLEM

The value of hyperpyrexia, including malaria, in the treatment of general paresis is so great that the contraindications must be subjected to the closest scrutiny before general acceptance. Tuberculosis is one of the most generally accepted absolute contraindications to such therapy, so that many patients have been deprived of such treatment. Surveys by means of the X-ray have shown the great prevalence of tuberculosis in mental hospitals (11.3 per cent of all patients in New York State have a reinfection type of lesion of which about half are healed, and half clinically significant, according to Plunkett) so that the problem is by no means a minor one. The cases and discussion presented below will show that such patients need not be deprived of the unquestioned benefits of hyperpyrexia.

INTRODUCTION

There is general acceptance among physicians using fever therapy of the view that hyperpyrexia must not be used in the presence of pulmonary tuberculosis. Neymann, in his book, "Artificial Fever," says that tuberculosis may be aggravated by electropyrrexia and that "pyretotherapy is not only useless in the treatment of tuberculosis, but may also be harmful." He cited one case where pyretotherapy was employed inadvertently in a patient who had glandular tuberculosis, and the disease was made worse. The Council on Physical Therapy of the American Medical Association, as a result of a questionnaire, came to the conclusion that most men employing this form of treatment consider tuberculosis as an absolute contraindication. Most of these statements do not specify whether they exclude only active cases of tuberculosis or arrested and apparently healed ones also. Vonderlehr in a review of the literature states that active tuberculosis is listed as an absolute contraindication by most workers, although some of these men list nephritis and cardiac decompensation as only relative contraindications! He quotes Haberman and Serefis to the effect that qui-

escent tuberculosis is a contraindication to malarial therapy, as the disease may be reactivated. Stokes, in his book, "Modern Clinical Syphilology," says, "Pulmonary complications rank high among the serious incidents of malarial therapy and even the milder forms of fever therapy have in my experience shown a definite tendency to light up latent tuberculous foci at the apices. The presence of active tuberculosis is therefore generally accepted as a strong contraindication to malarial therapy and the more conservative general reviews include known latent tuberculosis." This appears to be a concise and clear statement of the attitude of an authority on the treatment of syphilis. Stokes adds that many foreign medical centers, "disregard pulmonary tuberculosis as a complication as they give milder courses of treatment and in fact they have been enabled to show instances of satisfactory therapeutic results in such cases even with improvement of the tuberculosis. Such an attitude is not advisable in general or particularly in American practice with its tendency to longer pyrexial sieges." Dattner and Thomas, who use mild courses of malaria, usually only eight chills, say "fever should not be attempted in patients with tuberculosis," although in his book as quoted by Vonderlehr, Dattner says that fever treatment is not harmful in the presence of healed tuberculosis. Some workers go so far as to exclude even patients with a family history of tuberculosis (See Legobbe). Moore, in his book on the treatment of syphilis, is not so decided about this contraindication and states that there is an open question as to whether patients with a positive spinal fluid with a paretic formula should be treated with fever therapy even in the presence of tuberculosis; and he quotes Schlesinger as follows: "In the presence of fibroid tuberculosis treat even old syphilis with arsenic but less intensively. Fever therapy, especially malaria, should be avoided except in paresis where the risk of lighting up quiescent tuberculosis must be accepted." Apparently the patient with active tuberculosis is completely excluded from treatment by all these authorities, and most also exclude arrested and apparently healed cases.

In spite of the rather definite nature of some of these statements, it is surprising to find that tuberculosis is rarely listed as a cause of death among patients dying subsequent to such treatment. Ney-

mann, despite his large experience, does not list any deaths among his patients as being caused by tuberculosis. Wile and Mundt in an article entitled, "Analysis of Deaths Following Therapeutic Malaria," and Wile and Hand "Ten-Year Experience with Malaria in Neurosyphilis," do not mention tuberculosis, except to list active tuberculosis as an absolute contraindication. Fong studied 1,012 consecutive cases treated with malaria at St. Elizabeths Hospital and mentions tuberculosis as the cause of death in only one case.

An objection might be reasonably offered that these men never treated patients who were known to have tuberculosis. However, clinical methods of diagnosing tuberculosis are notoriously unsatisfactory. It has been shown by innumerable surveys among supposedly healthy people that a surprisingly high percentage has tuberculosis, and this is especially true among psychotic patients. Robertson found that among 3,306 autopsies at the Mayo Clinic 62.43 per cent had some form of tuberculosis, and of these 339, or 10.25 per cent, of the total had some form of activity; 4.05 per cent, or 134 cases, were clinically undiagnosed. During the past two years, the New York State Department of Health in cooperation with the Department of Mental Hygiene has been conducting a survey with the aid of the 4"x5" photoroentgenogram throughout the the state hospital system. At the Central Islip State Hospital, 15.1 per cent of the 7,376 patients who were surveyed had pulmonary tuberculosis of the reinfection type; 6.8 per cent appeared to be healed and 8.3 per cent had clinically significant lesions, (minimal 350 cases, moderately advanced 202 and far advanced 54). Eighty per cent of patients who are found to have tuberculosis by the usual methods have moderately or far advanced lesions. This gives us some idea of the number of tuberculosis patients who are asymptomatic or misdiagnosed during the early stage of the disease. In the article of the Council on Physical Therapy mentioned previously, most therapists stated that they absolutely excluded all cases of tuberculosis without specifying whether they meant the arrested and apparently healed patients also; and in describing their pretreatment workup they recommend an electrocardiogram but do not mention a chest X-ray. One may assume that they treat many a case of tuberculosis without knowing it, yet the listed causes of death rarely mention tuberculosis.

There might be some question as to the value of the death rate as a reliable indicator of the danger of treating tuberculosis patients with hyperpyrexia, particularly as in the articles listed, the patients were usually followed only from one to three months. Tuberculosis is usually a chronic disease, and a lesion which is stirred up by fever might not show itself clinically for a long time. That this is a valid objection to drawing conclusions from the death rates usually reported might be concluded from the fact that among 205 cases followed for five to 11 years by Freeman, Eldridge and Hall, 57 (28 per cent) were dead, of whom four had died of tuberculosis. Four out of 205 is much higher than the expected rate, although we know that the death rate from tuberculosis is very high among patients in institutions for mental diseases, and Plunkett and Tiffany mention the fact that one such institution has a death rate of 1,497 per 100,000 or about three per 200 patients. However, one cannot exclude the possibility that some of these four patients had had their tuberculosis exacerbated by the treatment unless the patients had been carefully checked by X-ray before and after treatment.

The writer does not find reports in the literature showing that many hyperpyrexia-treated patients were found to have had their tuberculosis reactivated by the treatment. E. Legobbe cites 4,346 cases of fever therapy collected from the literature (including malaria and other forms of hyperpyrexia) and finds only seven cases of activation of tuberculosis. He ventures the opinion that these seven cases were probably spontaneous reactivations and had nothing to do with the fever. He used malaria treatment on nine patients who had demonstrable evidence of pulmonary tuberculosis on the X-ray, usually with a history of active disease in the past; and on six similar patients he used other forms of artificial fever, without a single case of reactivation. He concludes that "anyone who has left tuberculosis behind need not worry about fever therapy." It appears that all of his patients had arrested or apparently healed tuberculosis, although he does not describe his cases individually.

Gerstmann states, "Various workers have shown that tuberculosis plays a very insignificant rôle as a cause of death in general paresis: about 4.2 per cent as compared with 34.4 per cent in

idiots and imbeciles and 26 per cent in other mental diseases." He concluded that there is an antagonism between tuberculosis and general paresis and he has not seen a recurrence of healed tuberculosis under the influence of malaria. In several cases of fairly active apical lesions, (he does not describe these patients further) he has risked malaria without exacerbation of the lesion. He adds that on the other hand Kirschbaum and Muellens have seen one of their cases of pulmonary tuberculosis get worse under malarial treatment.

Carson states that he treated six general paretics who had tuberculosis with hyperpyrexia without using chemotherapy with good results. He used artificial hyperpyrexia three hours above 103.6° and two hours at or over 106° , 15 treatments once a week, totaling approximately 70 hours. He adds that none of the patients with tuberculosis had any complications as far as tuberculosis was concerned, except one. This patient had a far advanced case with a hopeless prognosis. He had fever therapy for five weeks during which time he gained weight and there was no change in his mental condition. He died of tuberculosis four months after his last treatment. None of the other patients is described, and we do not know whether they had active tuberculosis at the start of treatment or only arrested or apparently healed lesions, nor does he describe what the followup consisted of. Carson then adds, "It is not the writer's claim to advance the theory that fever therapy is of any value in the treatment of pulmonary tuberculosis. It probably is not a wise procedure. However, when the patient has general paresis and also pulmonary tuberculosis it is the writer's firm conviction that he can be treated with safety by means of induced fever." The present author's experience, quite independent of this work, is in general agreement as will be seen.

Artificial fever has been employed by various workers in the treatment of pulmonary tuberculosis, and a study of their findings is instructive. Major, Doub and Hartman treated dogs experimentally infected with tuberculosis with artificial fever and saw a definite improvement. Duncan and Mariette in 1937, reported on the results of three years of work in treating tubercular patients with artificial fever. They started with hot baths and general diathermy, and later used the Simpson-Kettering hypertherm, usu-

ally achieving temperatures of 103.5° to 105° once a week. They wished to employ artificial fever on minimal cases, but were unable conscientiously to do this, so they tried it only on far advanced cases with hopeless outlooks due to acute exudative lesions or large inoperable cavities, who were expected to do badly on bed rest and on whom collapse therapy was impossible. The total number of cases was 39, with 819 treatments varying for each patient between 30 and 84 (11 cases had 84 treatments). A few cases had to be discontinued because they reacted poorly, but only six were made worse. Any changes which occurred appeared immediately or shortly after completion of treatment. Most cases were improved, but the change when determined objectively by the X-ray and Medlar's index was slight or moderate. None of the cases was greatly benefited, and the investigators concluded that the treatment was of little value in far advanced cases. The important point is that no patient had any rapid diffuse spread of the disease as a result of the fever therapy, despite the fact that practically all the cases had active tuberculosis.

With this fact in mind, namely, that the hyperpyrexia *per se* had no harmful effect on the patient with tuberculosis, the author began to treat patients with syphilis of the central nervous system with induced malaria if this treatment was indicated, even in the presence of pulmonary tuberculosis, unless their prognosis from the tuberculosis was hopeless. It was believed that in each case so treated the danger from the syphilis was greater than the danger from the tuberculosis, and that the improvement from malaria treatment is sufficient in most cases for a reasonable risk to be taken. This was done independently of the work of Carson, which has been mentioned. The author treated 11 such cases at Central Islip State Hospital between January, 1942, and March, 1943. In every case, the patient was known to have tuberculosis before treatment was started, and has been followed subsequently at least up to January, 1944. All had X-rays and other laboratory work-up before and after treatment. A search of the hospital records showed that there were four other patients who were known to have tuberculosis and had X-rays before treatment; these are also reported. One patient who had X-rays before treatment which were negative and was found to have tuberculosis after treatment is also reported.

A careful search of the hospital records did not disclose the presence of any other patients who developed tuberculosis within a reasonable time after malaria treatment, although in the past five years about 150 patients have been treated yearly with malaria in this hospital. This is a rather surprising finding in a hospital in which it was found that 8.3 per cent of all patients had clinically significant lesions.

CASE REPORTS

11 CASES WITH CENTRAL NERVOUS SYSTEM SYPHILIS AND TUBERCULOSIS TREATED BY THE AUTHOR

Case 1

J. C., No. 36012, was a white male 55 years old. He was admitted to the hospital January 15, 1942, with bilateral exudative and productive lesions in both upper lobes with some calcification in the apices. Sputum was negative on two smears. He had a low grade temperature elevation for the first three weeks which subsided on bed rest. The diagnosis was chronic pulmonary tuberculosis, moderately advanced. He was inoculated with tertian malaria, with the first chill February 5, 1942, the last, February 19. He received 15 chills of quotidian fever, with the highest temperature 107°, the average 104°, 11 of 105° or over. X-ray film taken March 17, 1942, showed that there was a new faint area of infiltration distal to the right hilum which remained stable for the subsequent year. The lesions in the upper portions of the lung fields became slightly more productive during this period. The patient evidently had an unstable lesion at the time of admission as shown clinically and by X-ray. There was a slight spread after exceptionally intensive treatment, but the lesion was then again stabilized on bed rest alone. Mentally the patient was markedly improved and was paroled from the hospital on June 16, 1942. Since September 16, 1943, he has been treated in a tuberculosis sanatorium where a film taken on admission showed the same lesion that he had when he left Central Islip. The sputum was still negative, but a film taken February 8, 1944, showed a slight spread indicating continued activity. The new lesion near the right hilum, which was mentioned, showed no change.

Case 2

J. C., No. 35753, was a white male, 45 years old. Admitted September 15, 1941, he had a caseous pneumonic lesion involving the entire left upper lobe with considerable honey-combing and a positive sputum. There was also some fibrosis and calcification in the right upper lobe. The erythrocyte sedimentation rate was 23 mm./hr.* The patient was markedly deteriorated, and malarial therapy was instituted because he was very difficult to care for, although there was not much hope of marked benefit. He had seven chills. His lowest temperature elevation was 103° , the highest 105.2° ; three seizures of 105° or over. Malaria had to be interrupted, as the patient did poorly, refused to eat, and lost considerable weight. An X-ray taken six weeks after termination of the treatment showed no change in the pulmonary lesions. A later film (November 22, 1943), 18 months after termination of malaria, shows a slight amount of contraction and resorption of the pathology, an indication that it was not thoroughly stable. Mentally, he is still markedly deteriorated but is much easier to care for and is more cooperative.

Case 3

N. C., No. 35827, was a white male, aged 44. He was admitted October 16, 1941, with a bilateral pneumothorax which he had had for nearly three years because of cavities in both lungs. His last positive sputum had been in October, 1940, Gaffky scale VIII. The erythrocyte sedimentation rate was 21 mm./hr. The lung on the left side was permitted to reexpand, which it did slowly; but it was still partly collapsed at the time of the induction of malaria. The pneumothorax on the right was continued. He was also a severe diabetic and required 40 units of protamine zinc insulin daily. His first chill was May 10, 1942, the total of chills was 12. His highest temperature was 105.2° . Only one paroxysm reached 105° or above; nine were between 104° and 105° . Subsequent roentgenograms showed complete reexpansion of the left lung with 60 per cent collapse on the right. The patient was working as a waiter on the wards and receiving pneumothorax refills on the right side when paroled as much improved into his own custody. He is now

*Determined by Cutler method.

working as a waiter and is self-supporting. He is still receiving antiluetic treatment and insulin. The pneumothorax on the right was discontinued in October, 1942.

Case 4

P. M., No. 35959, was a white male, 47 years old. This patient was markedly deteriorated when treatment was instituted at the insistence of his family. His tuberculosis was asymptomatic and consisted of a productive lesion in both apices and the first and second interspaces on the left.

P. M. did very poorly under mild tertian fever treatment. He had 10 chills, starting January 26, 1942, interrupted March 9, 1942. A film on March 17, 1942, showed no change in the tuberculosis, which was considered arrested. He died on April 17, 1942. Unquestionably, his death was due to the general paresis and not to the tuberculosis.

Case 5

A. D., No. 28515, was a negro woman, 50 years old. Admitted December 15, 1942, she was found to have a minimal exudative lesion. Her sputum was negative on three smears, the erythrocyte sedimentation rate 15 mm./hr. The diagnosis was chronic pulmonary tuberculosis, minimal. Her first chill was February 1, 1942; there was a total of 15 chills. Temperature rises ranged from 104° to 106.4°. There were 11 chills of 105° or more. Quartan malaria had been induced. The last chill was March 19, 1942. A film taken in July, 1942, showed a marked improvement in the pulmonary lesion: most of it had resorbed, leaving only a few fibrous strands and two or three small nodules. This change shows that the lesion was unstable but was not injured by the fever therapy. Mentally, there was a marked improvement; and the patient was paroled and has been self-supporting at her old work, that of a domestic.

Case 6

J. B., No. 36175, was a white male of 47. He had a mixed exudative and productive lesion with some honeycombing in the right upper lobe; the diagnosis was chronic pulmonary tuberculosis, moderately advanced. His sputum was positive, but the patient

was afebrile and had only a slight productive cough. The first chill was May 10, 1942, the highest temperature 105.5° ; there were four periods of 105° or higher. J. B. did poorly on malaria because of kidney failure with edema and beginning uremia, so the malaria was interrupted. An X-ray on July 17, 1942, was practically identical with the earlier film. Intravenous treatment was continued and there was some improvement in the man's mental condition. A roentgenogram October 15, 1942, showed some resorption of the pulmonary pathology, and the honeycombing could no longer be seen. The sputum was negative on concentrate, gastric washing, and culture. The patient was paroled to his own custody as much improved, October 25, 1943. On February 2, 1944, he was reported as having inactive tuberculosis and able to do sedentary work.

Case 7

H. F., No. 28710, was a white woman of 34. Admitted March 23, 1942, she had a fine fibronodular infiltrate in both upper lobes. The sputum was negative on smear and concentrate; her diagnosis was chronic pulmonary tuberculosis, moderately advanced. The first chill was on July 11, 1942; the total of chills was 15; there was a temperature variation of 103.2° to 105.4° ; six periods of 105° or above; the last chill was August 24, 1942. The malaria was of the tertian type. A film on November 5, 1942, showed no change. The patient was paroled as much improved, November 16, 1942, and was self-supporting until October 21, 1943, when she was returned to the hospital because of an attempted suicide. An X-ray at the time of her return showed that the lesion was now slightly more extensive; apparently her life outside the hospital had a worse effect than the malaria treatment.

Case 8

H. McL., No. 37137, was a negro man, 33 years old, admitted, May 20, 1943. He had had a thoracoplasty on the left side; there was a productive lesion on the right side, but it looked inactive, and there were no clinical symptoms. He was markedly deteriorated and had a poor prognosis; but because of his age, malaria was tried. The first chill of the quartan type was on June 20, 1943;

there was a total of 11 chills. The temperature elevation ranged from 103° to 105.4° ; there were four periods above 105° . The patient did fairly well during the fever, and it was interrupted July 19, 1943. A film dated July 29, 1943, showed no change in the pulmonary lesion, and there were no clinical signs of activity. On July 28, 1943, H. McL. began to have frequent mild convulsions which continued without cessation except during sedation until he died on July 31, 1943. There was no evidence of meningitis. This is a type of reaction which is occasionally met with in general paresis, especially after malaria treatment.

Case 9

N. P., No. 36360, was a white male, 45 years old. When he was admitted, July 22, 1942, he had a mixed exudative and productive lesion in the right upper third of the lung field, and in the left apex and first interspace, with a suspicious density in the left midlung field. He was afebrile. A 72-hour sputum on September 16, 1942, was positive. The diagnosis was chronic pulmonary tuberculosis moderately advanced. The first chill was October 30, 1942; the tenth and last, November 17, 1942. The highest temperature was 106.8° , the lowest 104° ; there were six paroxysms of 105° or more. A film dated February 2, 1943, showed no change in the lesion. Starting in April, 1943, and continuing until March, 1944, the lesion showed a gradual extension although the patient had been on bed rest. This is not out of keeping with the natural course of tuberculosis, especially in an uncooperative, restless, and agitated patient. As it did not appear on a film two and one-half months after the malaria, and was first noted in a film taken four and one-half months after the hyperpyrexia, the spread was not attributed to the fever. Numerous sputums have been negative up to the present date. Mentally, there has been a slight improvement.

Case 10

L. T., No. 36786, a white male of 61, was admitted, November 7, 1942, with a minimal productive lesion scattered in both apices and first interspaces but without clinical symptoms or signs of activity. There was a history of myocardial disease shown clinically and on the electrocardiogram. His first chill was February 25, 1943; the

fourth and last, March 2, 1943. The highest temperature reached was 106° ; the other three paroxysms were all at 104.8° . Malaria had to be interrupted because of the onset of auricular fibrillation, a drop in blood pressure and the appearance of shock. Films dated June 28, 1943, and August 26, 1943, showed the tuberculosis lesion to be unchanged. Treatment was continued with bismuth and tryparsamide; the patient showed some improvement and was paroled to his family. On January 8, 1944, he still had inactive tuberculosis, had gained 30 pounds, and was doing fairly well under supervision.

Case 11

M. H., No. 29236, was a white woman, 48 years old. When she was admitted on October 24, 1942, she had a scattered fibrocalcific lesion in both upper one-third lung fields, and in addition there were two or three large nodules which looked suspicious of chronic activity. There were no clinical signs or symptoms of tuberculosis. Her first chill was December 21, 1942; her fifteenth and last was January 8, 1943. The lowest temperature elevation was 103° ; the highest was 106.4° ; seven periods were 105° or higher. Several subsequent films showed no change in the lesion in the lungs, and it was considered to have been apparently healed. The patient was much improved mentally and has gone back to her former way of life as a housewife.

CASES TREATED BY OTHERS THAN AUTHOR

The next five cases were treated by others than the author at Central Islip State Hospital:

Case A

A. V., No. 34014, was a white man of 48. He had a history of chronic pulmonary tuberculosis IHC (far advanced, active with severe symptoms) with positive sputum, in 1933. A film on June 10, 1939, showed a fibrocalcific lesion in the right upper one-third of the lung field which appeared inactive, but there was an exudative and productive infiltration in the left upper lobe that looked suspicious. There were no clinical signs or symptoms except for a productive cough. He had 18 chills in July and August, 1939, of which

details are not obtainable. A film dated July 9, 1940, showed no change in the lesion, indicating that it was probably arrested. The erythrocyte sedimentation rate on February 10, 1941, was 6 mm./hr. He was paroled June, 1941, and discharged June, 1942, as much improved without any additional pulmonary signs or symptoms.

Case B

H. M., No. 27376, a negro woman, had been treated in 1936 in various sanatoria as a case of active tuberculosis. A film taken July 12, 1940, at Central Islip showed some productive nodular infiltration on the right side in the second and third interspaces. The first chill of quartan malaria was on July 23, 1940, the tenth on August 19, 1940. The lowest temperature elevation was 104° ; the highest 105.8° ; with five paroxysms of 105° or higher. A film on April 24, 1942, and other films later indicate that the lesion was stable and has shown no significant change since the first film. The patient improved mentally and was paroled but has been returned to the hospital for further treatment.

Case C

J. A., No. 33947, was a white male, 56 years old. He was a mild diabetic with a minimal exudative lesion in the right lung in November, 1941. His erythrocyte sedimentation rate was 29 mm./hr. A diagnosis of chronic pulmonary tuberculosis minimal was made. Five smears for tubercle bacilli were negative, and the patient was asymptomatic. A film on February 13, 1942, showed no progression of the lesion. He had two chills in April, 1942, but collapsed so that malaria was interrupted. He then improved physically and gained weight. In August, 1943, he suddenly collapsed and was found to have a temperature of 106° . An X-ray showed that he had miliary tuberculosis. On bed rest, the patient was comfortable and afebrile until he collapsed again two weeks later and died. The postmortem examination confirmed the diagnosis of an acute coronary thrombosis and miliary tuberculosis.

Case D

M. R., No. 36489, was a white man of 69. X-ray films dated August 5, 1942, and December 18, 1942, both showed the same productive lesion, which was considered arrested. He had his first

chill December 21, 1942, with a total of 15 chills of the tertian type. The temperature range was 103° to 105.4° ; seven paroxysms reached 105° or more; the chills terminated January 19, 1943. In March, 1943, the patient had a hemoptysis; and a film on March 29, 1943, showed a fresh exudative infiltrate on the left side below the productive lesion previously seen. This lesion was resorbed while the patient was treated on modified bed rest and is now considered arrested. Mentally, M. R. has improved only slightly and is still in the hospital.

Case E

T. N., No. 36456, was a white man of 50. An X-ray on July 20, 1942, was negative. His first chill of 10 was on October 22, 1942; seven paroxysms reached 105° or more; the highest temperature was 106.4° . A film dated April 27, 1943, showed a minimal exudative lesion in the right apex. Subsequent films show continued resorption of this lesion on bed rest alone. Mentally there has been no improvement.

DISCUSSION

From the case reports cited, it will be seen that among the patients treated by the author, only one had a spread of his tuberculosis. This was slight in extent and was quickly controlled on bed rest alone. This patient had a quotidian type of fever which caused a severe chill nearly every day so that he lost considerable weight and strength and became severely anemic. The use of thiobismol to produce a normal tertian type of malaria should have been attempted.

Among the patients treated by others at Central Islip State Hospital, there was one case (M. R., No. 36489) who appears to have been made worse by the treatment. Although it is impossible to assert definitely that the malaria caused this spread in a case with arrested tuberculosis, particularly as it was later found that there were other patients on the same ward who had active advanced tuberculosis unknown to the ward physician, nevertheless it is natural to assume that there is a causal connection present, as the spread appeared so soon after the treatment. This patient, on bed rest alone, has again become an arrested case and has had no permanent damage.

Patient J. A., No. 33947, who developed miliary tuberculosis 16 months after two chills, also had diabetes, which is apt to cause rapidly spreading lesions. According to Duncan and Mariette, and the present writer's own work, any change caused by the hyperpyrexia occurs fairly soon, so that there was probably no causal connection here.

Patient T. N., No. 36456, was negative in July, 1942, when X-rayed during a survey and was found to have minimal tuberculosis six months after the termination of the malaria, 11 months after the negative film. During the past two years at this hospital, 51 out of something less than 7,500 patients who were negative at the time of the survey developed pulmonary tuberculosis without any malaria treatment. One patient was far advanced six months after his negative film. In a hospital which treats about 150 patients with malaria yearly, one might expect to find an occasional one of these developing tuberculosis without incriminating the treatment.

The most striking feature of the results is that none of the patients developed immediate widespread bronchogenic or hematogenous spread, although some of them had active lesions which were at least partly exudative and of considerable extent. Some had positive sputums and cavities. This failure of the disease to spread largely and immediately has been brought out in earlier reports by workers who used hyperpyrexia in the treatment of active and even exudative tuberculosis; and it holds true even when the treatment is not mild.

It is not the writer's intention to intimate that fever therapy is harmless for a tuberculosis patient, but to suggest that the factor causing the danger is not the fever, elevated metabolism, increased circulation or other concomitants of hyperpyrexia, but the exhaustion of the patient by excessively rigorous treatment. The daily chills of quotidian fever such as J. C. (No. 36012) had, exhausted him. Patients with quartan malaria seemed to do better than those with tertian. It would seem that a form of treatment such as electropyrrexia or the Kettering hypertherm, involving one fever session a week, would be more satisfactory than the malarial fever, as it would give to the patient an opportunity to regain his strength between treatments. Moore states that he has seen cases of tuber-

culosis become miliary during intensive intravenous treatment for syphilis; this does not seem to occur in fever therapy, so that fever might be less dangerous than other types of intensive treatment.

Duncan and Mariette find that patients who are ambulatory before hyperpyrexia is started appear to have a more satisfactory resistance to the weakening effect of the fever. Therefore, unless the treatment is urgently needed, it is advisable to withhold fever therapy until the patient is well enough to be ambulatory. The author has not waited for the lesion to become stabilized and has inoculated patients who had active tuberculosis, but has not treated any patients who were actively toxic, with fever, night sweats, etc. Patients with the quiescent type of tuberculosis with positive sputum, and those with the active fibroid type of lesion do surprisingly well. Patients with arrested or apparently healed lesions may break down if exhausted by over-intensive treatment, just as they break down if they are set to work doing heavy manual labor. The active exudative lesions, contrary to expectation, do not begin to run rampant.

Subsequent treatment with tryparsamide and bismuth has been carried out in the usual doses in all cases, unless contraindicated because of toxicity. This has been without harmful effect.

The writer's impressions are based on a small number of cases. To obtain thoroughly reliable conclusions this topic should be treated statistically in the way which was done for the treatment of syphilis by the Cooperative Clinics. This, however, can never be done unless the exaggerated fear of the effect of hyperpyrexia in tuberculosis can be removed so that other institutions will begin to treat these patients and report their findings. In this paper, the writer has described the treatment of patients whose treatment was contraindicated because of the far advanced nature of their mental disease, because of chronic nephritis and chronic myocarditis, and he has reported, as a result, complications and deaths because of these conditions. He has not omitted treatment of any patient because of his tuberculosis unless the patient was manifestly a hopeless case with far advanced lesions; and in only one case, the first, was there a spread of the disease. This should be significant to others who are confronted with this complication, and who wish to use hyperpyrexia.

The table is a recapitulation of the cases treated.

TABLE SHOWING CASES TREATED
Number of cases treated by author—11. Treated by others—5. Total—16

Type of pulmonary disease	Extent*	No. of chills	Effect on tuberculosis	Effect on mental condition†	Remarks
1. Active	II	15	Slight spread	M. imp.	Severe quotidian fever, patient prostrated by the malaria. Spread soon under control.
2. Active	II	7	No change	Imp.	Severe diabetic.
3. Bilat. pneumothor. Arres.?	II	12	No change	M. imp.	Very deteriorated advanced paretic; died of general paresis.
4. Arrested or App. healed	I	10	No change	Died	Very deteriorated advanced paretic; died of general paresis.
5. Active	I	15	Improved	M. imp.	Malaria did not interfere with resorption of the tubercular lesion.
6. Active	II	7	No change	M. imp.	Malaria interrupted because of kidney failure with uremia and edema.
7. Arrested	II	15	No change	M. imp.	Malaria did not cause exacerbation of tuberculosis, but life outside of hospital did.
8. Post-thoracoplasty. Arres.	II	11	No change	Died	Very deteriorated advanced paretic; died of general paresis.
9. Active	II	10	No change	Unimp.	Known cardiac pathology. Malaria interrupted because of onset of auricular fibrillation.
10. Arrested	I	4	No change	Imp.	
11. App. healed	II	15	No change	M. imp.	
A. Arrested	II	18	No change	M. imp.	
B. Arrested	I	10	No change	Imp.	
C. Active	I	2	Unkn. 16 mos. later	Unimp	Diabetic. No apparent relationship between the malaria and the hematogenous tuberculosis.
D. Arrested	I	15	Reactivated	Unimp.	Malaria may have caused reactivation of tuberculosis but tuberculosis improved on bed rest alone.
E. Negative ?	0	10	Unkn. Had. min. tuberculosis 6 mo. later	Unimp.	Probably no causal connection between malaria and tuberculosis.

*Extent: I is minimal; II is moderately advanced in accordance with the diagnostic standards of the National Tuberculosis Association.

†Imp. means improved; M. imp. is much improved; Unimp. means unimproved mentally.

SUMMARY

1. Active pulmonary tuberculosis is considered practically an absolute contraindication for fever therapy, and most authorities also include arrested and apparently healed tuberculosis as an absolute or, at least, a relative contraindication.

2. Little evidence can be found in the literature to account for this opinion. In view of the great prevalence of tuberculosis, and the fact that chest X-rays are rarely used as a pretreatment check, one must conclude that many patients have received fever treatment in the presence of tuberculosis unwittingly; yet most reports of the causes of death subsequent to such treatment do not even mention tuberculosis, or place it very low on the list. The number of patients known to have had their tuberculous lesions exacerbated by such treatment is also surprisingly low.

3. Artificial fever has been used as a method of treatment for active pulmonary tuberculosis, even for acute exudative lesions, without causing any spread of the disease, and with benefit to the patients.

4. Among 11 patients with central nervous system syphilis and tuberculosis treated with malaria by the author, only one case had a slight spread of the disease and this has been controlled by bed rest alone. Five other cases are reported with varying results: Two had no change, one was an arrested case who had a spread after treatment; one was an active case who had diabetes, and 16 months after having two chills had miliary tuberculosis; the other one was negative on X-ray before treatment, and six months later had active tuberculosis. During this same period there were 51 patients out of about 7,500 in the hospital who had negative X-rays late in 1941 and who later were found to have active tuberculosis; there were also several who were considered arrested or apparently healed and were later found to have been reactivated without any known reason. There is no reason to incriminate the malaria in the cases just described, in view of the common occurrence of tuberculosis among patients not receiving hyperpyrexia.

5. Two patients died, and three had to have malaria discontinued before completion of the treatment, but none of the deaths or discontinuations was due to tuberculosis.

6. A detailed report on the patients, with followups, is given.

CONCLUSIONS

1. Malarial hyperpyrexia treatment *per se* is not dangerous in the presense of pulmonary tuberculosis, even when the disease is active, as it does not cause a rapid hematogenous or bronchogenic spread.

2. Overfrequent malarial chills, as in quotidian malaria, may cause exhaustion and do harm, but the attenuated malarial strains now used therapeutically can be readily controlled by quinine or atabrine or temporarily interrupted by thiobismol. Moreover, the tubercular lesion can be kept under nearly constant observation by frequent X-rays, and the hyperpyrexia can be stopped very quickly when necessary.

3. The less frequent chills of the quartan type of malaria do not appear to be dangerous at all, and artificial fever with the treatments a week apart would probably be even more satisfactory.

4. The patient who has syphilis of the central nervous system and pulmonary tuberculosis need not be deprived of the well-known benefits of fever therapy.

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DISORDERS OF MALE SEXUALITY AS ENCOUNTERED IN THE PRACTITIONER'S OFFICE

BY WLADIMIR ELIASBERG, M. D.

*. . . sed jam quum gaudia adirem
Admonuit dominae deseruitque Venus.*

Tib. I., 5

While the symptoms of male sexual disorders seem to be rather monotonous and drab, so far as the type of failure is concerned (lack of desire, failure in erection, ejaculatio praecox and the male equivalent of dyspareunia—painful cohabitation or orgasm*—the picture becomes more colorful if one sets out to treat the whole marital situation. In 99 per cent of the cases, the present or future marital situation accounts for the disorder; and taking the situation into consideration, together with an analysis of the personality makeup, is the chief basis for a successful treatment.

Every patient must, however, have a thorough physical examination. Impotence, if occurring within severe organic diseases of the nervous system, brain tumor, etc., will usually not command the main interest of the patient, nor indeed of the physician. This is definitely a field for collaboration between the general practitioner and the specialties of genito-urology, neurology, psychiatry and endocrinology, as the case may be. Max Huhner² rightly points out that such examination will reassure the patient, especially in purely psychogenic cases. Turning, after such examination, to the overwhelming majority of disorders, the psychogenic, it is a matter of importance whether the patient wants the doctor to approve his marriage or the suitability of his fiancée; or whether in an already existing marriage trouble has put in an appearance, at any time. If the therapist sees the husband, he must also see the other partner.

*Desire and orgasm are the two archangels watching the gates and pushing in and pulling out. But it is not so simple as that. They may both do the push and they may both give the pull. As a matter of fact, their mutual rôle is not easy to evaluate. In culture, pull seems to be more important than push. (Cf. Eliasberg, Ref. 1.)

A good many of these cases should not and could not, be treated primarily, with hormones, vitamins, injections, etc.† A thorough physical examination, which in such a case must be the first step, will yield no palpable cause for the disorder; but the case history, which must be no less thorough, will give the clue. One learns that the husband has always been a withdrawing, sensitive, somewhat schizoid type of personality, that he worships his wife, that he had neither before nor during marriage, any "crush on," or intercourse with, any other woman.

Such a man has been brooding, somewhat pedantic, somewhat resentful. Very often, the husband has felt inferior to his wife, has plunged himself into business so she could live a decent life, see her friends, discuss "problems" with them. But he himself would sit around, not daring to open his mouth, would give the impression of being a dullard. He would read extensively, sitting in his "den" but would never utter any opinion. He would even admire his in-laws silently but would never dare to address or feel at ease with them.

The onset of the symptom which leads into the doctor's office is rather characteristic in certain cases. For one reason or another, intercourse has not been possible for a long period. When it can finally be resumed, lo and behold, Venus lets the man down, as the Roman poet says. Frederick C. Thorne⁶ also explicitly mentions that *ejaculatio praecox* is commonly preceded by a long period of continence. One may add that it is obviously the psychological pattern of continence, with a certain degree of repression, or even re-

†In "Questions and Answers (Ref. 3), it is categorically stated that while oestrogenic preparations occasionally stimulate sex desire in the female castrate, this is by no means a regular occurrence. "Neither gonadotropic nor testicular substance has been shown conclusively to exert a beneficial effect on the man who is losing his potency . . . The psyche and technic of coitus have a great deal to do with this." The present writer will point out in his article that he would not like to go that far and that there are definite indications for the use of modern hormones in combination with psychotherapy. As to aphrodisiacs, S. Placzek (Ref. 4), in laying stress on psychically caused impotence, goes on "In such cases well applied psychotherapy can do wonders . . . Whether aphrodisiacs themselves deal with impotence, or only perceptibly influence it, is very doubtful to critical observers." The same reserve is expressed by Hugh Carmichael, et al. (Ref. 5). These authors and their discussant, E. D. Rubinstein, also point to the difficulty of determining dosage. Reduction in spermatazoal output and even dwindling of sex urge, was observed after large doses.

gression, which is responsible for the secondary impotence at the time when the outside obstacle is removed. Such psychological continence patterns have always played their part, as is proven by the amount of folklore that thrives around the moment of the "break." A few case histories will illustrate the problems with which one may be confronted and also the therapy involved.

CASE HISTORIES

Case 1 is that of E. Y., 29 years old, born in Austria, and in an "artistic" profession. He complained originally about "needing too much sleep," and about feelings of weakness all the time. "My skin cracks and hurts a lot; funny things start happening when I don't have enough sleep; my whole body aches, particularly near the spine; my heart-beat is hard, irregular, and sometimes furious; my face has hard lines, is fallen in, and haggard; my nails grow very fast. After two or three nights like these, I regularly develop a cold. All the membranes are dry and hurt." It is hardly necessary to amplify the way the patient expresses his sensations. The internist's thorough examination did not yield any contributory findings. The writer himself found habitually wide pupils, sweating hands, heart-beat (the first time he saw the patient) between 100 and 120, sympatheticotonic reaction in the oculocardiac experiment; no signs of Graves' disease, no significant increase in the metabolic rate, vasomotoric hypersensitivity. The patient himself predicted that he would not be able to stand a pin prick into the finger tip to get a drop of blood. Five minutes later, he turned greenish pale and fainted. At another time, upon entering the examination room and spying a syringe which was not meant for him, he also fainted promptly. His tonsils had been removed during the past year by an otolaryngologist, who found haemolytic streptococci. The sedimentation rate and the blood counts were normal.

During the treatment, the patient developed a strong positive transference to the physician, of the type seen mostly in female patients. He had rather promiscuous sexual relations of the "pick-up" variety. The only son, he disliked both parents, with a particularly strong but fluctuating antipathy toward his mother. She had been a writer before marriage, but had given up everything to become a good housewife. It was this fact which he vitriolically kept holding against her.

The patient criticized himself for his sexual mores and wanted to raise his standards. It was very easy for him to make acquaintances, since he was rather popular with the opposite sex. He was, however, definite about not wanting intimate relationships with most of the women of the better type he was able to win. With prostitutes and pick-ups, he was always normally potent. When he started raising his standards, he came to the writer with the complaint of impotence. He felt deeply hurt; he would never be able to have intercourse again, he would never be proficient in his work, either. Shortly after this, he fell heels over head in love with a woman artist much younger than he, rather disorganized in her inner and sexual life, but giving him the impression, because of her brilliant formulae and rationalized slogans, of being a very strong personality. And, "strange thing," she had blond hair and a certain type of legs he "simply had to go after." With her, he was potent from the outset and felt "100 per cent" stronger than he had ever been. This woman, however, told him frankly that she was dissatisfied, and finally gave him "the sack," from which moment on, the impotence complaints came back.

At the beginning of this successful episode, the writer had a feeling as to what would follow, and in order to strengthen him physiologically, gave testosterone. The patient was most outspoken in reporting the good effects of this medication, using colorful expressions in the manner illustrated by the quotations cited from his complaints. There may be indications for the hormone in such cases. Hormones so employed are not, as the name would suggest, and as indeed many physicians believe, the originators and primordial instigators of the functions stimulated, but they may be helpful if and when the personality plunges himself into the adventure of love.

A few weeks after this unhappy but potent episode, E. Y. fell in love with another young woman, in every respect the opposite of the former. And the first thing he decided was not to "touch" her, or, indeed, any woman, before marriage. At first, the patient felt very happy when he was with his beloved, and sure of more complete happiness in the future. He praised her beautiful build, her elegance, her mental traits and character, but the hair and the legs did not meet his ideal. One day he met professionally a woman of

poor physical build, but with those magic legs and hair. They had a long talk, she invited him for a cup of tea—and he felt enticed. What happened is even more interesting than would be the natural course of events. He felt an urge to tell the story to his beloved one, not to confess or to apologize. He did not confess an adventure. He confessed to her that she was not his type, which was not truly a confession, since it could not possibly be followed by absolution. The patient obviously misinterpreted his reaction as sin against his fiancée, whereas it was the conflict caused through the incomplete repression of his maternal attachment.

The patient had partly accepted the fiancée into his mother image—therefore the primordial decision not to “touch” her, or, as one may also express it, the relative impotence. The prognosis of the engagement and of the consummation of this marriage, depends on the success of a psychoanalytical treatment. Before this acme was to be reached, he wanted her to love him but not to look up to him; she should follow him, but he should not be the leader; and more than anything else, she should avoid becoming a good housekeeper. This case shows how intimately the so-called impotence syndromes are interwoven with the deep-rooted personality make-up. They are also changed by the psychological and physiological (autonomic) situations. The psychoanalytical clues in this case are: a spiteful, often vengeful attitude toward the mother; accusation of the father of being a pedant, and of having bequeathed this feature “biologically” to the son, who as an artist, feels himself seriously handicapped by this inheritance. In other words, he was accusing the father of being the creator of the son’s periodic inefficiency; and he was worshiping the maternal woman, mistaking sometimes for mature womanhood what was really neurotic aloofness.

In this case, for certain external reasons, it has not yet been possible to carry through a complete analysis. But it was possible, on the basis of analytical understanding, to steer clear of the cliffs of the impotence syndrome. The latter accomplishment illustrates what is possible for the practitioner, who instead of thinking first of shots and jabs, tries to understand the psychological makeup of the entire personality. An indication for treatment in this case was also given through the autonomic imbalance (Cf. Singer,⁷ Gelhorn⁸). In certain cases, one might be able to cut the Gordian knot

at this point. The use of Bellergal and Dexedrine Sulphate in small doses (2.5 milligrams) may be useful.

There is, incidentally, much to be said for the tentative understanding of the personality through graphology. This patient's handwriting, (Figure 1) is characteristic of his personality. With very little slanting to the right, it shows enormously increasing pressure, hard pressing, signs of inhibition and jerkiness, good connection, and on the whole, a general level of form that would not

you can see in your
time over his coming weekend.
I am terribly anxious to get
started working on my speech
defect. I shall be able to come
in to New York about Saturday
evening and will be there until
Sunday evening. I hope I am
not writing you too late in his

Figure 1.

be suggestive of an artist. The connective type is mixed, with both arcades and garlands. It is not the place here to go into the details of graphological analysis. (Cf. for this Eliasberg.⁹) Suffice it to say that it is not the form of the letters as such, as is assumed in quack-graphology, which matters. It has been amply shown that the psychological space is not neutral, that the direction of writing and the degree of pressure are revelations of the tendency of the personality toward himself or toward the outside world. This, incidentally, has been shown also for "senseless" material in the experiments published recently by Emilio Mira.¹⁰

What was the rôle of the other factors in this case? The patient had been having a very well-balanced diet for years. In fact, he gave this subject much thought. With the usual office and laboratory methods, no endocrine disorders could be found. The vegetative stigmatization* has, of course, enhanced the psychological difficulties, but it was certainly the psychology of the patient, which offered the lever and the fulcrum. (Cf. for this also the enumeration of factors in A. L. Wolbarst.¹¹) The impotent man is in the overwhelming majority of cases, a challenge to the psychiatrist, as has been said recently of the obese (Gray¹²).

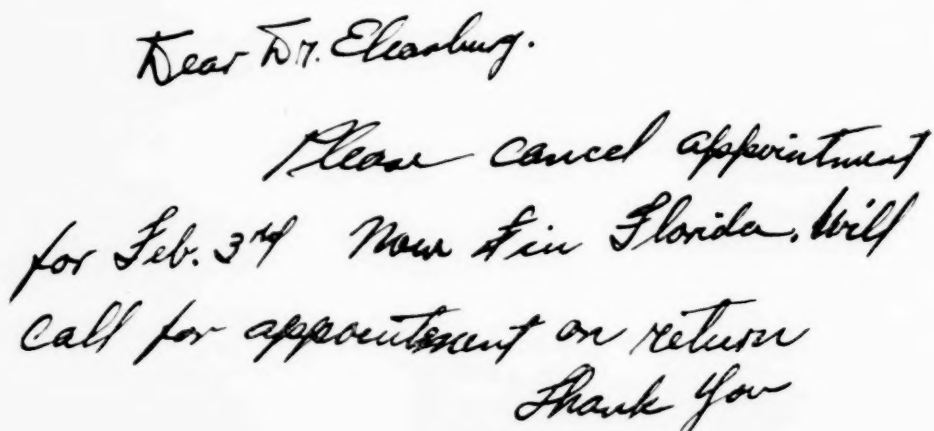
Case 2 is that of C. D., 35 years old, born in America of Russian descent. There are an older brother and a younger sister. The brother, self-assertive, pompous, talkative, somewhat domineering, is, on the whole, on very good terms with the patient. The patient himself has always been shy, embarrassed, and never had any contact with women until he made the acquaintance of his wife. The latter is small of stature, as is the patient. She is also of Russian descent, and she has taken a strong interest in party politics. She could not speak to the patient about her creeds because he did not dare to enter into a political discussion. The wife told me that they both had entered marriage as virgins, and that they did not have intercourse for the first three months because she did not care to have a child and he did not know how to take care.* After a while, however, the marriage was consummated. The wife always played the active part, asked him to approach her, etc. For two years, continence was necessary because of a gynecological condition. Moreover, during this time, the wife was psychoanalyzed, and it was her analyst who referred the patient to the writer because, when, after the removal of the gynecological obstacle, they wanted to resume marital intercourse, he either had no erection or ejaculatio præcox. This difficulty disappeared very quickly under relaxative-suggestive treatment. It proved useful, as has been rightly stressed by Thorne,⁶ to advise them to have very frequent

*Cf. H. D. Singer (Ref. 7), who stressed the fateful relationship between the schizoid reaction type and the autonomic nervous system.

*Max Huhner (Ref. 2) saw cases in which the supposed impotence was due to the fact "that neither the husband nor the wife knew how to perform the coital act." Such patients have been treated for the supposed impotency by sounds, electricity, prostatic massage, instillations, etc.

intercourse, and the wife was instructed in ways to be helpful on her part. The patient himself mentioned that he felt reassured because his wife, due to reconstruction of her political party had felt somewhat stranded, had therefore given up her party activities, and had concentrated much more upon him. His general attitude, however, had not changed. He would come home in the evening, never say "hello," be very stiff, and when asked for some nicer greeting, say: "I don't want it to become a habit." Nevertheless, as already mentioned, he felt very happy.

For a long period, he had not been successful in business, but finally he organized a business that has been thriving ever since, owing to his carefully planning each step in advance. His brother is his partner, but the creative mind in the business is the patient's. It gave him very much relief when he arranged things so that his wife should be fully protected in case he should have to join the army. He told me that this had also played a great rôle in his marital readjustment. So things went fine until he got a "cold" and at the same time, a postcard from his draft board. Under this shock, he was again unable to perform coitus; but, not allowing himself to be discouraged, he tried again as he was told to do, and succeeded. As in Case 1, the handwriting (See Figure 2) shows the signs of a personality with strong inhibitions, as reflected in the irregular pressure increases, the change in the direction of the lines, wave-shaped lines, without any rhythm. This last characteristic



Dear Dr. Elsworth.
Please cancel appointment
for Feb. 3rd Now I'm in Florida. Will
call for appointment on return
Thank You

Figure 2

was mentioned in Case 1. The patient always had full confidence, but never that demonstrative transference that was characteristic of Case 1. Comparing the personality make-ups of the two, one would say that there is an admixture of general conversion tendencies in Case 1, but no such symptomatology, apart from the impotence, in Case 2. It is also noteworthy that the impotence is not organized and circumscribed in the first case as it is in the second.

Physical examination of C. D. revealed a healthy young man, in good condition, with suntanned skin, normal weight, etc. The impotence, in this case, is entirely independent of any physical abnormality. It is connected with the character structure, with a certain inferiority-feeling, which is not, however, submissiveness. A man may not be submissive in his outer actions and in appearance, and yet feel that inferiority which in our culture (See Margaret Mead¹³) does not predispose him to a normal male sexual approach. The writer has shown in a previous publication that the male sexual approach, like the female, contains both elements, the active-aggressive, and the passive-masochistic. (Cf. Eliasberg.¹⁴) It would be a superficial to assume that somewhat passive or masochistic individuals are by the same token predisposed to a female rôle or weakened in their male approach. The present patient, while certainly no "he-man" type, was capable of normal intercourse when psychological conditions improved. Again, in this case, there are deep-rooted patterns, which for external reasons, could not be psychoanalyzed. But oriented upon the general insight of analysis, changes for the better in the situation helped the patient. The crucial complaint in the situation could be eliminated with very little sacrifice in time and money. Hormones have not been used so far in this case. They may, however, be helpful at a certain juncture. The future will tell.

Case 3 is that of F. D. The wife of this patient had been operated on by a gynecologist for narrowness in the *introitus vaginae*. He referred her to the writer, with the information that the husband, in trying to resume intercourse after an interval of eight months, had found himself "disabled." The wife, 35 years old, had emigrated from Germany seven years previously with her husband. She has always been a rather grave and sensitive person. Her two sisters, for whom she has always cared very much are nine and 11

years younger than she. She worries about these two girls, who are now grown up and want to carry on by themselves. This is a typical family constellation which might give some clue to the handling of certain matrimonial difficulties. The older sister transforms herself into the rôle of the mother—with all the implications derived therefrom for her own marital adjustment.

The older-sister-situation may set the investigator on the trail of finding out to what degree the available receptors are already saturated with affect. In this case, it was suspected that something in the attitude of the wife might contribute to the impotence of her husband. While protesting her love, she also told a rather vague story of her husband having borrowed some money from his family at the time of their emigration from Germany. The whole story is of a matter long past and absolutely insignificant, considering the fact that everyone at that time knew that Jewish-owned money in Germany was lost anyway. There was an interlude, at the time of the wife's treatment, caused by grippe, with a considerable increase of depression which was interpreted as a temporary post-grippe syndrome. As will be described in the case history of the husband, intercourse was taken up, and the wife felt real satisfaction for the first time in her life. Her headaches and depressions seemed to disappear, only to come back after a few weeks, this time with an endogenic tinge. When the question of having a child is discussed with this 35-year-old woman, she says: "I am loath of that whole thing"—meaning intercourse.

The husband, 42 years old, when spoken to in the absence of his wife, opened the discussion thus: "I don't know whether I am too old, or whether I should take vitamins, or what should I have for breakfast?" He is a butcher, short and somewhat stout, well-fed, with well-developed muscles of the arms, a development often seen in that occupation. He has a broad chest. The borders of the lungs are relatively but little movable; there is a relative emphysema, but without bronchitis signs. He has a slight scoliosis of the dorsal spine and a roundish configuration of the back. The dark hair is somewhat gray. Otherwise, there are no contributory findings. Intercourse was normal before the gynecological episode. The patient did not have intercourse with any other woman. He protests his love for his wife. He is a plain man,

in no way given to hair-splitting or psychological fineness. He has full confidence in the physician but is not demonstrative in his transference. One never becomes warm with him. The treatment consists in explanations and suggestions, for which as a vehicle, the Jacobson relaxation treatment¹⁵ is used. During the treatment, it is striking how the patient translates everything into the formula which is familiar to him: "I should do this and I should omit that." This formula is very unsatisfactory. One should always try to make sure by having the patient repeat in his own words, that this is not the formula to which explanations and counsel boil down. The patient, therefore, receives a dictated statement containing certain psychological and physiological statements. The wording is such that every "I should" or "I should not" is avoided; on the contrary, "IT will work" is stressed. As has already been pointed out in the case history of the wife, the method worked after a few failures. The patient had rather frequent intercourse, as he was advised to have, and used contraceptives. Then came his wife's menses and her relapse into depression, which was already described. The husband did not lose his potency but did not feel so sure of himself any more, and, as a symptom of this, broached the question of "injections."

The ups and downs in this case are obviously connected with the psychosomatic condition of the wife. The patient himself, to be sure, is a slightly withdrawing personality, and is physically a type predisposed to early aging. The case history, however, shows beyond doubt that these factors need hardly be taken into consideration. A hormone treatment should be instituted only after the wife's condition has become more stable.

Case 4, P. N., according to a report of the social worker, was brought up in Poland. The father, an orthodox rabbi, now 74 years old, demanded strict obedience from his eight children. Even now, when they are all grown up, his commands are obsequiously heeded. The patient, now 45 years old, came to this country at the age of 13. After graduating from high school, he was successful for a while in business life, and he married. At that time, he paid the expenses for all his sisters and brothers to come over to the United States. In the crisis of 1929, the patient had setbacks and lost \$20,000; but was always able to provide for his family. He has a good voice and

earns money occasionally as a singer. His personality was characterized by a social worker as sincere, warm, demonstrative, jolly. His wife said that he had always had a strong sense of responsibility, never gambled, and was never unfaithful to her.

This case has had quite a work-up from the medical standpoint. In 1936, P. N. was diagnosed as a case of autonomic imbalance (See H. D. Singer⁷), vagotonia, with chronic vasoconstrictions. His complaints consisted of cold feet, excessive perspiration of the feet, etc. A local treatment was successful only for a short time. Thereafter he received paravertebral injections, which gave him relief from the profuse sweating, but "caused," as he thinks, the impotence. He was also treated because of a slow pulse and a minus metabolic rate—which obviously was interpreted as a hypothyroid condition—with thyroid. Through all the years, he complained of a certain, though not absolute, lack of sexual drive, which he kept relating to the paravertebral injections. A preliminary psychiatric diagnosis, made in 1942, reads: "Emotional immaturity and instability, girdle fat pads, scanty body hair, small penis, testes palpably normal, fine texture of the skin, which is cool and moist, marked dermatographism, no struma." In the psychiatric sessions the following facts came out. His first intercourse was between the ages of 17 and 18; the boy was seduced by a 35-year-old cook in his father's house, masturbation thereafter regularly, but not excessively. The boy did not want to have sexual intercourse with women because he felt his organs were quite inferior. Up to date, he thinks his organs are those of a boy of 15.

The only woman in whom he was ever really interested was his cousin, a tiny slim blonde, to whom he had proposed at the age of 24, only to be rejected. Shortly after this, he married his present wife with whom he has lived in unbroken marriage for 21 years. His wife is in every respect the opposite of what was his ideal. She is heavily built, "hefty," strong, energetic, dark. When the patient's complaint about the lack of desire was analyzed, it came out that desire is not impaired, but hampered by the fear of impotence. When he discussed his situation with his 74-year-old father, the latter told him that he was strongly interested in women. There was an interlude of greater satisfaction when the patient received hormonal treatment for local use. But this effect did not

last very long. As this patient has been seen by many doctors, his attitude is slightly skeptical but not withdrawing. On the whole, there is good transference, which has not so far become demonstrative, nor is the patient in any way submissive.

This case is obviously much more complex than the others. One is here confronted with a combination of conspicuous constitutional inferiority, with emphasis on vasomotoric signs and heterosexual secondary characters on the one hand, and the mental residues of a strict education on the other. In the treatment, a definite stage has not yet been reached. This case is reported, however, because it should provoke thought. There can be no doubt that here again the hormonal treatment might be effective only in combination with a psychiatric one, which in this case will have to be psychoanalysis.

The crucial test for any theory would be if it could also explain why in a case which has certain resemblances to the preceding four, there has been no episode of impotence.

Case 5, P. R., enters the writer's office as a kind of "emergency case." The wife has been telephoning all morning: "You doctor, are our last refuge; he doesn't want to continue with his law school." The patient himself, a man of 35, born in America, asserts that every time he enters the classroom he has severe pains in his chest, in fact so severe, that he really does not want to continue. His wife has made it possible for him to take up his studies and has supported him for several years. There has been a history of an ulcer, of which the diagnosis is not absolutely certain. The patient says that he had been psychoanalyzed and had been diagnosed as conversion hysteria. The father died of a heart disease, and whenever the patient's situation has brought him into more or less close contact with pain, disease, or suffering—which has, unfortunately, been very often, he has responded with pain and suffering of his own. The emergency for which he consulted the writer could be taken care of with a relaxation treatment, during which strong transference developed. In later years, he used to elaborate, off and on, certain organ neuroses, from warts to hypertension, with abdominal pains and spasticity increasingly getting the better of the other complaints. His relationships to his wife were very complex. She, older than he, worn out by hard work and grief, nervous, "hysterical," and schizothymic herself, did not respond very much sexually.

His problem was always that of too much desire and too much potency. Why did the sexual disorders of the other patients never develop in this case? The writer feels that he is able to answer this question. Of all the patients discussed here, this one developed the strongest transference. He was a pure type of conversion hysteria. He was at the same time a good jolly fellow, always inclined to a good joke, and as far as his meager means would allow, to enjoying life. His anxiety was wrapped up in the 200 pounds which his earthly frame would stand. There was not the slightest indication of any schizothymic paranoid admixture, nor was there that degree of vasomotoric stigmata which were found in Cases 1 and 4.

It seems to the writer that the following difference accounts for the presence or absence of impotence. The impotence syndrome, as such, is typically not connected with conversion hysteria. It is connected with deeper-rooted splits and schizothymic developments, and this connection may be cemented through autonomic imbalance. One might use the impotence syndrome for differential diagnostic purposes in unclear psychological and physical symptoms. In Case 5, the absence of the impotence syndrome would militate against the diagnosis of ulcer. The spasticity of this patient is quite different from the vagotonic schizothymic kind. It yields easily and it is not conducive to that type of "organ neurosis" which one finds in schizothymics, namely impotence.

CONCLUSIONS

While there can be no doubt that personality factors, psychological make-up, acute factors of the psychological situation, play an overwhelming rôle in the syndrome of male impotence, these factors themselves are of an astonishing variety. The psychosexual condition of each case must be analyzed in itself. Only after an analysis of the psychological situation, which need not always be a psychoanalysis, can one get insight into the dovetailing of the physical stigmata, if any, with the psychological make-up. The treatment should never begin before such analysis. The treatment will consist of a psychological and endocrine-autonomic part. Other cases may also require the nutritional and local neurological armamentaria. But these latter are relatively rare cases in the physician's office. The psychoneurotic type which is least connected with

and gives the strongest protection against the impotence syndrome, is conversion hysteria. On the other hand, the impotence syndrome shows an affinity to the schizothymic split personality make-up, with or without the autonomic imbalance syndrome.

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INTRAMURAL HEARINGS ON WRITS OF HABEAS CORPUS*

BY HARRY J. WORTHING, M. D., AND NEWTON J. T. BIGELOW, M. D.

The writ of habeas corpus has long been a thorn in the side of the State hospital administrator. Further, the conscientious hospital physician is irked by what he considers a sterile procedure in that the patient concerned is almost invariably psychotic and unsafe to be at large. The physician is likewise somewhat embarrassed at the spectacle of lay civil authorities grappling at a problem which cannot be understood legalistically, and which occasionally baffles the specialist.

The serious loss of time by the physician, ward personnel, and chauffeur, and the use of the State vehicle, necessitated by attendance at such hearings in nearby towns, are further sources of dissatisfaction and waste. With the liberalization of the granting of writs, the nuisance became grave.

Despite all these facts, however, the conscientious administrator recognizes that to protect the fundamental rights of the individual, the granting, and the hearing, of such writs is imperative under the constitution.

In order to effect a realistic compromise, one of the writers made an arrangement with Chief Justice Edward Lazansky of the Appellate Division of the Supreme Court of the State of New York, whereby regular court sessions might be held once each month by the Supreme Court and once each month by the County Court, at Pilgrim State Hospital. Preliminary plans were laid January 20, 1941, when two neighboring State hospitals were invited to participate. To date, they have not found this participation necessary. Certain attorneys have vaguely questioned the propriety of holding court at a hospital, but no valid criticism has been advanced. Patients have not been so pleased—inasmuch as it was learned that heretofore some had been urged by their fellows to prepare petitions so that they might thereby enjoy pleasant country drives, outside meals, pointed individual attention and opportunities to bask in the limelight of the courtroom. On the other hand, this hospital-hearing procedure obviates certain traumatic public ex-

*Read by title at the 100th annual meeting of the American Psychiatric Association at Philadelphia, May, 1944.

periences for many patients. Relatives who invariably receive advance notice have been more at ease at the hospital hearings. The judges have been gracious, and the courtroom officials have been interested in the contact.

When an action is brought, the usual preparations are made, including the return to the writ. The patient who is to be heard is examined at length by the clinical director and by the first assistant physician who is to testify. Sensibly enough, the former may then release the patient if in his judgment there has been sufficient recent improvement that has not been brought to his attention. A comprehensive note is then prepared which recites, in summary, the facts of the case and present condition, touching chiefly upon the dangerous mental illness of the individual. Copies of this note are included with the required papers which are handed to the presiding justice and to the deputy attorney general, representing the superintendent, at the time of trial. The physician who testifies refreshes his memory from the record and from this note, because on some days four or more cases are heard. Because of punctilious, accurate preparation, a better rapport with the judge and the officials has been developed. Finally, under this system, more time is available for actual evaluation of a given case, the patient has a better opportunity to talk and to question witnesses and, with due humility, the writers believe that this more direct hospital contact has given a broader psychiatric insight to the judge.

Saturday mornings have been found to be quite suitable for hearings. Sessions, of course, have been held only when several cases have accumulated. There has, however, been no undue delay in any given case. The board room in the administration building has provided an ideal courtroom, the hall serving as a waiting room. Disturbed patients whose writs have been denied are now quickly and quietly returned to their buildings. Formerly, it was possible for them to vent their spleen long and loudly while forced to await other patients' hearings, and while on the way back, some 35 miles, to the hospital. The official record of the hearings is, of course, kept by the court stenographer.

The Honorable Isaac R. Swezey, justice of the Supreme Court, heard the first writ at Pilgrim State Hospital, March 21, 1942. During the following year, a total of 37 patients' cases were brought

into court at the hospital. Of these, 25 writs were dismissed, and the patients were remanded to the hospital. In seven, adjournments were had. When he came before the judge, another patient withdrew his writ. In the cases of three patients the writs were sustained and the patients discharged from the hospital.

During the previous year at various courts, 45 writs of habeas corpus had been heard in behalf of patients. Eight of these were ordered discharged. Three individuals withdrew their writs. The remaining 34 patients were remanded to the care of the superintendent upon the dismissal of their writs.

The discharge rate then, in this small sampling, was 17.7 per cent in the outside courts and 8.3 per cent in the intramural hearings. There are a number of factors which appear to produce this discrepancy, most of which have been discussed in the foregoing. Suffice it to report that from the writers' observations the hospital hearings seem to search the cases more thoroughly, under better conditions.

ILLUSTRATIVE CASE

One case only will be cited to illustrate some of the difficulties met successfully in such hearings:

On March 21, 1942, a single woman, born in this country March 11, 1896, and suffering from a paranoid state, was admitted to Pilgrim State Hospital on a regular form of commitment. She had been employed as confidential secretary to a procurement officer in one of the armed services. She was efficient, narcissistic, officious, over-polite and rigid. Although she had been investigated, it was not determined until later that she had undergone a paranoid episode some four years before.

This woman came under surveillance when she complained in writing to a superior officer about alleged irregularities in the office where she was employed. After due observation, she was finally apprehended, charged with having had photostatic copies made of secret government documents and with having deposited transcripts of them in about a dozen public check rooms. The criminal charge was dropped, and she was committed to the hospital on a civil order.

Except for some menopausal changes, there were no significant findings. Superficially she made a very favorable impression and told a very plausible story. She quoted official rules setting forth the duty of service employees to watch for and report traitorous activities. She claimed that the photostatic copies and transcripts of secret documents were to be used simply as evidence to prove her accusations. Careful psychiatric evaluation, however, showed that her activities were merely part of a larger trend which had been in existence for some years. This involved a Mr. A., who apparently had then shown some interest in the patient and for whom she had at first developed some erotic feelings. Secondarily, she developed a strong paranoid trend against this man and, thence forward, had evolved a delusional system which included the theft of official information and subversive activity by others under this man's direction.

She assumed the attitude, however, of injured virtue caught in a mesh of unscrupulous traitors and bemused psychiatrists allegedly unable to see the true issue involved. The obviously delusional trend concerning Mr. A. faded into the background gradually, and the patient began to deny such delusions and the activity based on them.

At this point, a writ of habeas corpus was heard April 18, 1942, before the Honorable Isaac R. Swezey, justice of the Supreme Court, at the hospital. An officer of the intelligence division of the branch of the service concerned, a deputy attorney general representing the superintendent and the hospital, and physicians familiar with the woman's case were present at the hearing. The background of the case and the nature of her mental disorder were carefully developed; and, after an extended hearing, Justice Swezey dismissed the writ and remanded the patient to the hospital.

It may be pointed out that this woman made an excellent impression in court, being gracious, of superior intelligence, coherent and most precise in her statements. Further, she denied the delusional material previously elicited and at the time of the hearing made no statements and showed no behavior which would be considered psychotic by the lay observer. At that time, all that she would do was to make implications rather than accusations; and she maintained that, as a good citizen, she was merely checking

and reporting possible carelessness. It was carefully brought out, however, that all of this formed part of the paranoid system in longitudinal view. From the standpoint of the armed forces, there was finally the contention that, although this woman's delusional system had receded partially, she had, in her mind, names, places, dates, amounts and other facts which could be carefully drawn from her by an informed spy under false pretenses at a time when the North African campaign was still in secret preparation. Thus, if she were to have been released unsuspectingly from the hospital, she would have been a potential source of danger because of her special knowledge, her temperamental set and her type of psychosis.

There have been later fluctuations in this patient's condition in which her paranoid state has been obviously displayed despite her clever dissembling.

SUMMARY

A method of hearing writs of habeas corpus intramurally, to the benefit of the courts, the hospital, the patients and their relatives, has been described. This method is applicable to large hospitals only, where a substantial number of writs are procured, although it could be applied to several hospitals located in the same area. An illustrative case is presented.

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AN INTERPRETATION OF THE DIVERGENT OUTCOME OF SCHIZOPHRENIA IN IDENTICAL TWINS

BY SILVANO ARIETI, M. D.

The study of psychotic twins to elucidate the complex problem of nature-nurture in the pathogenesis of mental illnesses, has given rise to numerous interesting contributions. Among the works which have appeared in this country, fundamental are those of Rosanoff^{1, 2} and coworkers and the more recent ones of Kallman^{3, 4, 5, 6} and associates. In a recent article on the heredo-constitutional mechanisms bearing upon schizophrenia, Kallmann and Barrera⁶ offer an interesting new approach to the study of this psychosis in identical twins. In an editorial note in "The 1941 Year Book of Neurology, Psychiatry, and Endocrinology," Lewis⁷ emphasizes the importance of psychiatric research on twins and anticipates additional studies.

The purpose of this contribution is to report cases of schizophrenia in a pair of identical twins and to interpret their diverging outcomes in view of the theories expressed by Kallmann and Barrera and also in view of their different prepsychotic personalities and psychotic manifestations. By correlating the findings with those of other investigations reported in the literature, some conclusions may be drawn about the prognosis of typical and atypical schizophrenia, and some hypotheses may be advanced about the mechanisms which are involved in the latter of these two conditions.

REPORT OF CASES

Family History. No instances of mental or nervous diseases are reported in the family of the patients. The parents were Polish and lived in a small town in Pennsylvania. The father was a coal miner and died from an unascertained illness when the patients were nine years old. The mother, who is still alive, is uneducated and speaks English poorly. She is a pious Roman Catholic and has always imposed upon her children absolute observance of their religion. The patients are the oldest children. Four more siblings, not twins, were born, two boys and two girls. They are alive and healthy, and never have shown any mental disorder.

Personal Histories. The patients were born on October 21, 1913. Magda was born one-half hour before Selma.* The reaction of the parents to the births of twins was a happy one. The births and early developments of the babies were normal. They were artificially fed. They had no important diseases during their childhoods. The patients went to school together, were graduated from grammar school and then continued in a continuation school until they were 16. In school, they did satisfactory work, without any noticeable difference in their marks, and were not obliged to repeat any class. They were both sociable children and liked to play games. Until the age of 12, the sisters were always dressed alike. They were so similar that they were often misidentified. The mother always tried to emphasize their similarity by insisting upon dressing them alike. Asked by the writer why she wanted to do so, the mother answered "I was proud of them. I liked to see them alike." However, the two children didn't like to dress identically; and, as far as they can remember, they always objected to this wish of their mother, although unsuccessfully. They resented the facts of being twins and of being the object of everyone's attention on account of their similarity. Magda, in particular, began to consider her being a twin as something of which to be ashamed. After the age of 12, the sisters succeeded in dressing differently. At that time, according to the mother, they started to be jealous of each other, each of them being especially jealous of the other's dresses.

Then, too, the first differences in their personalities became apparent at that time. Up to the age of 12, the patients were both sociable and vivacious children. From that age Selma became more seclusive and reserved. She preferred to be alone; when in company she was considered shy and bashful. On the other hand, Magda has always been sociable and more pleasant.

At the age of 15, the sisters both began to work as domestics, always avoiding employment in the same place. Magda started to menstruate at 16, Selma exactly one year later. The patients did not enjoy living in their mother's house. Both complained about the strict and extremely religious family life. Selma, especially, was considered stubborn and disobedient. Magda had her first boy

*The names have been changed to conceal the identities of the patients.

friend when she was 16, Selma when she was 18. At the age of 17, Selma was discontented with her work in Pennsylvania and on account of friction with her mother and sister, decided to go to New York and find work there. Magda remained in Pennsylvania; but, in spite of her previous disagreements with Selma, she became lonesome for her and decided to follow her to New York two months later. Both sisters did housework, but Magda always made more money than Selma and used to send more money to the mother. Magda used to mingle with people and went out with many boys; Selma was more reserved. According to Magda, Selma was often bashful and even afraid with men.

When Magda was 19, she had an illegitimate pregnancy. She refused to have a criminal abortion; and, when the child was born, she sent him to her mother in Pennsylvania. Magda remained in New York, where, two years later, she met a man who after two or three months married her. He is a handsome man, a professional acrobat. He is poorly educated. Two children were born thereafter. Selma didn't relish the fact of her sister's marriage and never got along well with her brother-in-law. At the age of 24, Selma had an illegitimate pregnancy too, apparently the result of an affair with a sailor who soon disappeared. It seems that this sailor had promised to marry her, but it was later determined that he was already married. Contrary to her sister's action, Selma underwent a criminal abortion.

Onset of Selma's Mental Symptoms. The last position held by Selma was chambermaid in a hospital for the aged, administered by nuns. Selma acted more or less queerly from the time she began to work there, about one and one-half years before admission to the mental hospital. However, she showed no outspoken mental symptoms for a time. In September, 1941, however, she began to assert that the nuns in the hospital were giving her a poisonous medicine. She was unable to sleep and to work. On account of her "queer" behavior, she was dismissed from the hospital about the middle of November. Then she went to live with her sister. She continued to be restless, would cry almost constantly, could not sleep and refused to eat.

*Initial Examination of Selma.** The patient was admitted to Kings Park State Hospital, December 20, 1941. Physical examination revealed a well-developed but undernourished woman with no significant physical findings. Her weight was 99 and one-half pounds. The blood Wassermann and urinalysis were negative.

On the ward, the patient was quiet, seclusive, fairly cooperative and took little interest in her surroundings. Her psychomotor activity was definitely reduced. She required urging, particularly at meal times. Her replies were brief but coherent and relevant. Emotionally, she was dull. She exhibited an inappropriate grin and laughter. Requested to tell her story, she said that she had been employed at a hospital managed by nuns. She worked hard there, but the nuns were not satisfied and at times were even abusive. She had no trouble until September, 1941, when she was told to pack up her clothes and leave. She was in the process of leaving when the Mother Superior changed her mind and told her not to go. Then one of the nuns made her take a white tablet in a little water. She swallowed this tablet and her head immediately began to "feel funny." At first it felt heavy and quite numb so that she was hardly able to do her work. She told her brother-in-law about this experience, and he went the following day to speak angrily to the nuns about what they had done to her. After her brother-in-law left the hospital, the nuns, apparently angry and revengeful because he had spoken in an impolite manner to them, gave her, she said, a second, similar dose, dissolved in a cup of milk. Thereafter, her condition became much worse. The nuns said that the medicine was given to her to calm her nerves, but she knew that it was not. She became stupid, and her memory became bad. She said that she did not know why the nuns should be "against" her and should want to harm her. She was particularly suspicious of the Mother Superior, who acted as druggist. The nuns then said that she was no longer dependable and dismissed her.

While in her sister's house, she did not go out, kept to herself, stayed in bed a great deal and could not do much work. She was unable to think or to concentrate, was unable to sleep, had little ap-

*Findings of the initial examination were summarized from the clinical record, furnished by Dr. A. E. Soper, director of Kings Park State Hospital, Kings Park, N. Y., which assistance is gratefully acknowledged.

petite and cried often. She was worried "about her head," which felt heavy. She knew that there was something "wrong in her brain." She was sure that the drug given her by the nuns was still working on her brain and she felt rather hopeless about getting well.

Hallucinations were not elicited. Her sensorium was clear. School and general knowledge were not commensurate with her education. The patient believed in the reality of her delusions, and her judgment was obviously impaired.

Course of Selma's Disorder. Selma's mental condition has remained essentially unchanged since her admission. She retains her delusions about the nuns, asserting that as a result of their "poison" her mind is sick, that she has a "terrible feeling" inside her head and that this feeling has grown progressively worse. She is emotionally shallow and inadequate, but becomes tearful when she speaks about the persecutions of the nuns. She says "I cannot answer to your questions. You have to ask those questions to the nuns. They ruined my brain. My brain is melted. My head is empty." Although her condition has remained fundamentally the same up to the time of writing this report (December, 1943), cycles of minor exacerbations and improvements were noted, especially in consideration of her behavior. Although she has always been underactive to the point of being forced to get up from bed in the morning and seclusive to the point of not speaking to anyone, periods of partial adjustment occurred during which she became more friendly, more willing to do some work and to engage in pleasant conversation.

In September, 1942, she was transferred to Pilgrim State Hospital where her twin sister was also living (See the following.) She had heard that Magda was in Pilgrim State Hospital as a patient but she did not pay very much attention to this fact and never expressed any desire to see her.

Permission for "shock" therapy, which had been repeatedly refused by the relatives, was finally obtained in June, 1943. Although not much hope was placed in this treatment on account of the already long duration of the illness, it was thought advisable to try it. On June 28, a course of insulin was started. Altogether, she had 63 treatments, receiving the last one on October 19, 1943. She

had 46 comas after having received doses of insulin ranging from 70 to 140 units. During and after the course of the treatment, she did not show much improvement. Her behavior became better, she adjusted better to the ward routine, became quieter, easier to manage and friendlier to the other patients; but she continued to harbor her delusions. She still maintained that the nuns had destroyed her brain.

Onset of Magda's Mental Symptoms. As soon as Selma was admitted to the mental hospital, Magda started to complain of inability to sleep. She showed increasing restlessness and nervousness. Three months after Selma's commitment, she started to express many somatic complaints. She felt weak, complained of general malaise, and when lying abed, would suddenly jump up for no apparent reason. She declared that there was something wrong with her, which she was unable to describe. Subsequently, she started to express the fear of becoming "insane." She felt actually like "losing her mind" and repeatedly stated that since her twin sister was "insane," she would also become mentally sick.

Later she presented real trends against her husband. She began to accuse him of infidelity, although there was no foundation for such a belief. She felt sure that he would desert her and marry another woman despite his repeated assurances that he had no intention to do so. She would often examine his underwear to discover proof of his unfaithfulness.

Initial Examination of Magda. Magda was admitted to Pilgrim State Hospital on June 30, 1942. The physical examination was negative.

The patient was quiet, cooperative, and able to take care of herself. She was rather underproductive and preoccupied; but good rapport could be established. Her affect was adequate. She started to cry when her children, whom she had to leave, were mentioned. She felt nervous and restless, and complained of a feeling of tension within herself that she could not explain or describe. She complained also of general weakness, of repeated headaches and of dyspepsia. She described worry about her children, fearing that something terrible would happen to them. She "knew" that her mind was not the same and felt sure that since her twin sister was "insane" she too would become a "mental patient." She ex-

pressed the belief that her husband wanted to desert her and marry another woman. It was because of him that she was in the hospital. She had been "framed" into a mental institution. She knew that her husband was mad because her sister was "mental," and he certainly would take it out on her. He did not love her any longer and was going to divorce her.

The sensorium was clear. The patient had partial insight, recognizing that she was not in a normal condition; but she did not realize that her ideas of jealousy had no foundation.

Course of Magda's Disorder. Magda's mental condition remained practically unchanged during the months of July and August. She retained her delusions of jealousy and expressed new ideas of reference about her neighbors. They did not like her and were certainly talking about her. They were jealous of her because she had such a nice husband. She continued to complain of pains and ill-defined sensations in several parts of her body. In the month of October, she found out that Selma was in the same hospital. Although the latter was in a different ward, Magda was embarrassed about it and felt ashamed. She was afraid that the other patients would point to them because of their similarity during the physical training classes which patients of different wards attend at the same time. She never expressed any desire to see Selma and was rather pleased to hear that Selma was much sicker than she. She became more worried, anxious, complained less about her husband, but more about her subjective symptoms like malaise, weakness and headaches.

Toward the middle of October, Magda started to improve quickly and steadily. She became less tense and preoccupied, did not present many somatic complaints and began to think that maybe her husband was not unfaithful. In November, the improvement was definite. She did not complain about her health, started to work on the ward and expressed the belief that her jealousy, as well as her opinion of her neighbors, was the result of her imagination. She also attributed her previous condition to too much worrying about her sister. Magda was paroled from the hospital on December 23, 1942. She attends the parole clinic regularly, and her condition continues to be satisfactory. She does not worry about her husband or the neighbors and does not complain about her health.

The social worker who visits her regularly finds her home and her children well cared for.

PHYSICAL OBSERVATIONS IN BOTH CASES AND COMPARISONS

There seems to be no doubt that the sisters are monozygotic twins. If the criteria for determining monozygotic twins which were formulated by Newman, Freeman and Holzinger⁸ are followed, one sees that almost all of them are fulfilled.

Photographic documents, taken at different periods, show the patients have always been so strikingly similar in their general appearance that they have always been subject to misidentification. Only recently, the difference in their weight has been a help in distinguishing them. Their brown hair and their light complexions are identical. They present essentially the same facial features, nose, lips, chin, ears. The hands are of the same type and proportion; the eyes are of the same color. Examination of the fingerprints reveals an extreme similarity in the friction ridges of the fingers and of the palm patterns. However, there is not reversed asymmetry and the patients are both right-handed. Their writing shows striking similarity. On the other hand, some physical differences are easily noticeable. Selma is, and as photographic documents show, has always been, thinner, shorter, and lighter. When Magda left the hospital, she weighed 129 pounds, 25 pounds more than her sister. Selma's height is 154.91 cm., Magda's height is 156.21 cm. Cephalic measurements give brachycephalic values in both cases, but these are more marked in Magda. The width of Selma's head is 14.50 cm., the length is 17.40 cm., and the cephalic index is 83.33; the width of Magda's head is 15.95 cm., the length is 17.85 and the cephalic index 89.33. The general appearance and measurements reveal more characteristics of the athletic habitus in Magda and of the asthenic in Selma.

COMMENTS

The histories of these monozygotic twins and the manifestations of their illnesses offer some interesting considerations concerning their similar and their diverging characteristics. Photographic documents, taken at different ages, although revealing the striking similarity of the patients, disclose that Magda has always been

taller, stouter, and heavier. Her history tells us that she has always had more vigorous physical stamina. She started to menstruate one year earlier than Selma and even today appears stronger. All the physical characteristics, described in the previous paragraph, lead to the conclusion that she is the more athletic and less asthenic of the pair. Such a conclusion is important because it agrees completely with the studies of Kallmann and Barrera, who found that in a pair of schizophrenic monozygotic twins the one who is constitutionally less athletic and more asthenic is always the one presenting the more malignant psychiatric syndrome. These authors think that these athletic traits are the expression of a nonspecific somatic defense mechanism, which offers resistance to the disintegrating effect of the specific schizophrenic genotype. Such a theory is supported by the findings in the present patients, the more athletic of whom (Magda) made a spontaneous recovery, whereas the more asthenic (Selma) is still sick in spite of insulin treatment. The Kallmann and Barrera findings disclose that at any time it could have been predicted from the study of the physical characteristics of these twins, that if they were to become schizophrenic, Selma would have been the one more severely affected. Such prediction could also have been made, however, in consideration of the prepsychotic personalities of the patients. After the age of 12, Selma was always the more introverted or schizoid. She indulged more in daydreaming and in dereistic thinking. She was less social, more bashful and less aggressive, especially in her heterosexual contacts. Except for her own idea of going to work in New York, she was always a follower of the sister she despised. Magda has always been the dominant person of the pair and much more extroverted. Chase and Silverman,⁹ in their critical survey of the literature, state that there is a general agreement among authors that the outlook for schizophrenia is more favorable in the extrovert personality. Furthermore, the combination of Selma's introverted personality and more marked asthenic constitution could have led one to consider her prognosis to be much the poorer of the two. As a matter of fact, Kretschmer,¹⁰ Mauz¹¹ and Langfeldt¹² consider such a combination in schizophrenia to be ominous.

Selma's less adequate way of reacting to the problems of life and her repeated disappointments could also have led one to make a poorer prognosis in her case. Henderson and Gillespie¹³ state that patients who during their prepsychotic periods have handled their difficulties in a satisfactory way, have also "a very much better chance of readjusting themselves." Selma had serious economic problems and could never make as much money to send to her old mother as she wished. She had difficulties in meeting men, and finally the man with whom she was in love, seduced her and refused to marry her; and she resorted to a criminal abortion. The events of her life may lead to the conclusion that her schizophrenic reaction is the result of her failures to adapt to the environment and may lead one to emphasize the environmental pathogenetic factors rather than the hereditary ones. The writer, however, is more inclined to consider Selma's greater inability to solve her problems of life adequately as a manifestation of her greater mental liability, which began to reveal itself at the age of 12.

Interesting, is the comparison of the symptomatologies presented by the patients during their psychotic periods. The patterns of their psychoses were fundamentally similar. The delusions were the predominant symptoms; and, remarkable in both cases, was the absence of hallucinations of any kind. However, the symptoms were more pronounced and more malignant in Selma's case. Magda had delusions of jealousy, which although not founded in reality, concerned matters which might have been possible. Selma's delusions about the nuns and their persecutory methods were much more irrational. Of considerable interest, was the occurrence in one case (Magda) of hypochondriacal symptoms (headaches, malaise, etc.) and in the other (Selma) of somatic delusions ("progressive melting of the brain" accompanied by headaches). If one admits that the general patterns of the psychoses were predetermined by hereditary factors and modified by other secondary additional factors, one may consider the hypochondriasis of Magda and the somatic delusions of Selma as related to each other. In other words, they would not be two fundamentally different symptoms—one an expression of "*hypochondrie vésanique*" and the other of "*hypochondrie non-vésanique*" of the French school¹⁴ but as two different degrees or two different manifestations of the same

fundamental psychic derangement. This conclusion approaches the ideas expressed by Brown,¹⁵ according to whom, "hypochondriasis frequently blends with a hypochondriacal delusion" so that their distinction "seems to be a useless one." From the findings of the present writer's cases, one may conclude that the distinction between hypochondriasis and somatic delusions may be maintained but that such a distinction is more important to establish the degree of intensity of the mental condition rather than its fundamental nature, and that it may have more prognostic than diagnostic value.

Of more probable importance, was the fact that Magda's mental condition presented many other so-called "psychoneurotic" symptoms (anxiety, general malaise, etc.) and that these symptoms increased immediately before her condition started to improve. Her affective reactions were much more adequate than Selma's, but did not present anything suggestive of a manic-depressive psychosis. Her anxiety had psychoneurotic characteristics. One may assume thus that the nonspecific defense mechanism, described by Kallmann and Barrera and traceable in Magda's more athletic constitution, manifested itself at a psychological level by "psychoneurotic" symptoms. Therefore, one may perhaps consider the so-called psychoneurotic symptoms as an expression of a defense against the schizophrenic traits. One may think also that some potential schizophrenic traits which could have predisposed Magda to somatic delusions, were so altered by these mechanisms that only hypochondriacal symptoms resulted. The majority of authors, however, attribute a better prognosis in schizophrenia to the association of manic-depressive features rather than to the association of psychoneurotic. Hunt and Appel¹⁶ found the recovery rate in the schizo-affective psychoses to be much higher than in the usual form of schizophrenia. Most authors agree, however, that the association of atypical symptoms of any kind in schizophrenia is prognostically favorable. Therefore, one may conclude that the nonspecific defense mechanisms which according to Kallmann and Barrera manifest themselves physically by means of mesodermal elements would also be responsible for the atypical character of the syndrome. Such an atypical character might, therefore, manifest itself in manic-depressive, and less frequently in psychoneurotic, features.

SUMMARY

The case of a pair of schizophrenic monozygotic twins is reported. The symptomatology presented by the patients was fundamentally similar, but whereas one of them made a spontaneous recovery, the condition of the other was practically unchanged after more than two years.

The recovery occurred in the patient: (a) who was the more athletic and less asthenic, in agreement with the findings of Kallmann and Barrera; (b) whose prepsychotic personality was definitely more extroverted; (c) who had always shown better ability to cope with the problems of life; and (d) whose symptomatology was somewhat atypical because of the presence of many "psychoneurotic" symptoms.

The author compares the hypochondriacal symptoms presented by one patient with the somatic delusions presented by the other and discusses their relationship in view of the generally similar pattern of the psychoses.

The hypothesis is advanced that the anti-schizophrenic defense mechanisms, described by Kallmann and Barrera, manifest themselves at a psychological level by atypical symptoms.

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AMNESIC SYNDROME WITH SHORT REMISSIONS DURING ELECTRIC SHOCK TREATMENT

BY H. J. KLEINSCHMIDT, M. D.

Reports of impaired memory following convulsive treatment—by electricity, as well as by metrazol—are not infrequent.¹ Most of these cases show, apart from the amnesia common to treatment after electric shock, lacunar memory defects for recent events, some even for more remote events, with severer forms presenting the Korsakoff syndrome.² These disturbances vary considerably in duration but they are almost always temporary. As a rule, there are no permanent memory defects, whereas the capacity for retention may even improve during the treatment.³ Opinions differ widely on the significance of the amnesia ranging from the view that it is an unavoidable ill effect of little importance to the theory that it is a decisive factor in convulsive therapy.

The following notes present the writer's clinical observations of a very uncommon amnesic syndrome, appearing after electric shock in a paranoid patient and repeating itself exactly and in all its details after 11 out of 21 shocks. The striking characteristics of this amnesia were its sharp outline, in so far as it went back to the moment of the outbreak of the illness, and its short duration, varying from a few minutes to one hour. Each time, the very moment the amnesia disappeared, a remission developed—with relative insight into, and detachment from, the patient's paranoid ideas. These remissions lasted from 20 minutes to one and one-half hours. The patient was observed in the Esrath-Nashim Mental Hospital, Jerusalem.

REPORT OF CASE

History

M. N., a married man, aged 53, was admitted to the Esrath-Nashim hospital April 23, 1942. Born in Morocco, he came to Palestine as a small child. His native tongue is Arabic; he learned Hebrew later as his second language. There was nothing remarkable in the ascendant family history. The patient has five living children, of whom one son was several times convicted of theft. One epileptic daughter died when she was eight years old.

The man—allegedly mentally normal until then—became ill six weeks before admission, at the moment when the police came to arrest his son at his house. Suddenly, the patient displayed various paranoid delusions: The wife had conspired against him (not against the son); one must not sentence him without having heard his defense; only God was his judge; the neighbors would talk about him and say that he had done wrong.

The patient started shouting: "I ask for mercy, let me talk, to everyone, to the English, British government in the world, to reveal the truth and make justice reign in the world." He shouted all day long, repeating the same words stereotypically, with intervals of a few minutes only. A few days before admission to the mental hospital, a state of anxiety appeared: M. N. tried to smash his head with a stone, because he did not want to live any longer as he "had been tortured enough."

For more than 20 years, the patient had been employed in a menial capacity in a large bank. His employers state that he started drinking some years ago and became increasingly unreliable. This man, who for many years had performed his duties punctiliously, imbued as he was with the importance of his humble job, now stayed away several times, and was suspected of having stolen several trifles. Finally, he had to be dismissed one and one-half years before his illness. Ten months later he was taken back on trial. He seemed to have stopped drinking, but was as unreliable as before, lazy, and very difficult to handle, since he grumbled aloud and kept annoying his employers by unjustified complaints. He was discharged again, this time permanently. Immediately after the arrest of his son, he went back to his former working place and attacked his former employer, shouting excitedly that he wanted justice, that he had done no wrong, that he was innocent but that he had been sentenced without a hearing.

The patient is of pyknic constitution, with a distinct "tower-skull," and with an excessively coarse beard, his big ears sticking out. There were no pathological reflexes and no tremor. The Wassermann reaction was negative; the blood pressure was 115/75; the pulse 72.

During the first months of his stay in hospital, the patient repeated stereotypically his compulsory shouting—at intervals of a

few minutes. He was easily distracted, ready to be drawn into topics beyond his paranoid ideas, spoke coherently, often with a touch of humor, but blocked every thorough exploration by shouting apprehensively and whiningly, "But what have I done, did I do anything wrong?" This was compulsorily followed by the stereotypical repetition of the words: "I ask for mercy . . ."

Occupational therapy was tried, but without success, since M. N. revealed no interest in any work whatever, and kept on shouting.

Course of Treatment

The patient was told on November 28, 1942, that he would get electric treatment as from the next morning. He said quietly that he did not need it, he was healthy, he would be able to shout in any case, and that was what counted. He was in the hospital only in order to shout until the English government could be brought to him, and it was the duty of the prison doctors to let him shout. "This is a prison, isn't it? Or what else is it? Why am I detained here? Because I was sentenced. I beg to be listened to, in front of everyone, of the neighbors, of the English government, of the landlord and of the police, so that the truth be revealed and justice might reign in the world."

But the patient came the next morning quietly and without resistance into the treatment room. The first treatment was given on November 29, 1942, with 900 ohms, 90 volts in 0.2 seconds and 900 milliamperes. M. N. had no complete grand mal attack; but respiration and heart beat stopped after a slight tonic contraction; the face changed color and became waxy; the lips were cyanotic. There was a conjugate deviation of the head, trunk and eyes, to the right and upward. There were slight tonic-clonic convulsions in both arms, the lips made gasping motions. The heart began to beat again after 40 seconds; respiration commenced after 10 more seconds. Approximately two minutes after the attack was over, the patient opened his eyes, slowly regained consciousness, looked around, lifted his head and asked: "Where am I?" He repeated the question several times without waiting for the answer or hearing it. "Where am I?" Then: "What have I done? Where am I?" Then, hesitatingly, "You wear a white smock, are you a doctor?" He pointed at one of the attendants. "He wears a white

smock, too. Where am I?" He began to examine himself. "These are not my clothes. Whom do they belong to? Are they from here?" At the head of the bed, he noticed his own rolled-up sweater, unfolded it ceremoniously. "That is mine," and, obviously delighted by recognizing something familiar to him, he repeated several times: "That is mine, it belongs to me, does it not?" Then he turned to his entourage: "Are you a doctor? Why am I here?"

Asked by one of the doctors, whether he did not know him, he answered decidedly in the negative. A few names, including the doctor's name were mentioned to him, but he shook his head in denial. Asked whether he had ever seen the matron, he replied, "No." Dr. H. then asked whether the patient did not remember seeing him at the patient's own house. The patient exclaimed in surprise: "At my house? When?" (In March.) "In March? And now? Which month is it now?" (November.) "November? And have I been here a long time? Where have I been all the time?" Asked for his address, M. N. energetically tried to recall it, but, after some seconds, shrugged his shoulders helplessly. Somebody started telling him the name of the quarter: "Nah . . .;" and the patient interrupted immediately, completing the name correctly: "Nahlat Shiva, yes, Nahlat Shiva." (Which house?) After having hesitated almost a minute, the patient said tentatively, slowly and, as it were, memorizing: "House R.," looking uncertainly and eager for confirmation at Dr. H. "And you came to see me? At my house, in Nahlat Shiva? Why?" (You were ill.) "I was ill? What was wrong with me?" (You shouted.) "I shouted? What did I shout?" (That neighbors and the landlord accused you of having committed some wrong.) The patient shook his head without understanding. "Have I been mad? I shouted? But what? Why?" The patient addressed Dr. H. and exclaimed excitedly: "I know you, I know you, yes, you are a doctor." Then, after a short interval, stammering: "You are the director,* you are Dr. . . ." On being told the first half of the name, he could not complete it. But on being told the full name, he sat up, delighted and relieved: "Yes, that's right, you are Dr. H. And you have cured me, I am well now?" The patient seized the doctor's hand, trying to kiss it, and repeating: "Thank you, you have cured me, I thank you."

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This euphoric state continued, and the patient, looking at one after the other of the bystanders, addressed each one: "I know you, you are a doctor, too . . . and this is the matron . . ." but without being able to recollect the names. On being told the names, he was overcome by growing excitement and continued to address one after the other, now with the appropriate names.

He tried to get up, but fell back immediately indicating by a gesture that everything around him was topsy-turvy. But he got up again, trying to touch the wall next to him, looked up to the ceiling, stooping with fear, and tried to touch the other and more distant side wall. As his hand could not reach it, his glance returned to the ceiling, his hand to the wall closer to him. The patient was for some time completely absorbed by this attempt at spatial orientation. Then, exhausted, he sank back, asking: "Is this a dream or reality? Have I really been mad? But where am I, why was I brought here? How long have I been here? Is this a dream? I have been mad?" (You called for the government and asked for mercy.) "Yes, yes, that's right, I shouted, why did I shout? What was wrong with me? I was ill? And now I am well?" M. N. retained the euphoric state now prevailing for almost half an hour, excitedly thanking the doctors for having been cured and dazedly repeating, "Is it really true? Isn't it a dream?" Asked why he had started shouting, he helplessly shook his head again and again, "I don't know, I don't know." He then complained of retching and weariness. He wanted to rest. Soon he fell asleep and waked up only after a little more than an hour. He sat up, asking, "What has happened to me? What does it mean?" Reminded that he was in the hospital because he had shouted, he asked, "But what had happened?" (The police came to arrest your son.) The patient became excited, exclaimed, "Yes, that's right, I was afraid, I knew he is a thief. I was afraid. All the time I was afraid. Then the police came, yes, I remember quite right. They took him away. And then I shouted." (Why?) "I don't know, I was afraid, all the time." The patient himself now said for the first time that his son was a relapsing thief, that the family knew of it and could do nothing about it. He told of how he was afraid that the police would come one day. The euphoric state changed during his story into the usual timid-depressed one. Asked to dress and to return

to the ward he stood up easily but took a surprisingly long time to dress and tottered several times, stereotypically falling backward (never sideways). He now showed the grave and somewhat sad expression typical for the shouting periods. On the way to the ward—almost two and a half hours after the shock—he suddenly stopped, and started shouting again: "I ask for mercy, . . ." Reminded that he himself had that very moment stated that he was well, he interrupted: "My dear friend, I cannot help myself."

He spent the rest of the day more quietly than usual. He slept for some hours but, after having awakened, continued shouting.

On December 2, M. N. underwent a shock again (1,000 ohms, 95 volts, 0.2 seconds and 900 milliamperes). The attack followed the course taken by the first one, with apnea and cardiac arrest for 50 seconds. Awakened, he put the same questions in almost identical sequence. An acceleration in pronouncing the names and events affected by the amnesia failed to accelerate his recalling them. He required again almost 40 minutes to gain full temporal and spatial orientation. Again he was induced to talk of the fear he felt during the time preceding the arrest of his son. And again the subsequent remission lasted little more than an hour.

During the following week, the patient had three shocks instead of the two usually given at this hospital. Observations, however, failed to satisfy the physicians' expectations of a cumulative effect of the treatment. On the contrary, the whole process ran a quicker course each time: the disappearance of the amnesia, the psychic accessibility, the relative insight as well as the subsequent remission. The original outline of the amnesia was not affected. After the fifth shock the pulse ceased only for a few seconds, breathing started after 10 seconds, and after 50 minutes the patient was already shouting again.

M. N. had a grand mal attack on December 20, (135 volts, 0.2 seconds and 1,300 milliamperes) as well as on January 3, 1943 (125 volts, 1,300 milliamperes). Both shocks passed without prolonged apnea and without impaired circulation. He waked up after a short stridor, had no impaired memory except the usual amnesia for the treatment and started shouting while still in bed. After an interval of 10 days he was treated again (85 volts, 0.2 seconds and 1,000 milliamperes) and again had a convulsionless attack with

apnea and cardiac arrest for 65 and 55 seconds respectively. This time he was told hardly anything; and one observed that his gradual automatic recollection required as much time as before. He relapsed again after two hours and 25 minutes and started shouting. When he began to shout, he excused himself by the cry: "I can't help it."

A further attempt to give shocks three times a week showed the same result. The period of amnesia decreased essentially from time to time, the amnesia itself preserved its character and outline, accessibility of the psyche was hardly to be observed, and the patient relapsed, once in 40 minutes, at another time 25 minutes after the shock. The eleventh shock, with the same voltage and the same milliamperes failed—after a four-day interval—to produce any results. The patient waked up at once and immediately started shouting.

The treatment was then interrupted for three weeks and resumed on February 14, 1943, with 90 volts, 0.2 seconds and 900 milliamperes. After a cardiac arrest of 40 seconds and an apnea of 50 seconds, the familiar picture presented itself: lacunar amnesia with a subsequent remission for one hour. After another three weeks, the patient was shocked with 125 volts in 0.2 seconds and 1,200 milliamperes. A grand mal attack occurred, with convulsions, almost immediate regaining of breath, but without impaired circulation; and the patient, still in bed, started shouting after two minutes.

After these 13 shocks the therapists interrupted the treatment for two months. Within this interval, no changes were noticeable except an occasional "blitz"-like appearance of an idea of grandeur (as observed by Kretschmer⁴), which vanished, however, after two days and was later on constantly denied by the patient. On the occasion of a feast of minor importance, the patient insisted on fasting, saying: "I must fast as atonement for the sins of others. By the order of God I must do so." Asked about it next day, he repeated that he alone received the order from Heaven, and that he had been chosen by God to atone for the sins of the other patients, referred to by him as "prisoners."

On May 5, 1943, the patient received a new shock (90 volts, 0.2 seconds and 1,200 milliamperes) resulting in cardiac arrest and ap-

nea for 40 and 50 seconds respectively, again followed by amnesia, a euphoric state and relative insight. This time, the patient showed more readiness than before to undergo some tests; and he relapsed only after three hours following the shock.

On June 2, 1943, he received a shock of 115 volts in 0.2 seconds with 900 milliamperes and had a full attack with convulsions. The patient started shouting after only 90 seconds. On June 6, he had a new convulsionless attack (120 volts, 0.2 seconds and 700 milliamperes) with apnea and cardiac arrest for a few seconds; the whole process of amnesia, gradual recollection and euphoric state ran a quicker course than ever; and the patient started shouting again after 12 minutes.

Subsequently, the patient received another five shocks at intervals of two to three weeks, with voltage varying between 90 and 125, and amperage between 700 and 1,000 milliamperes without reproducing the amnesic picture and short subsequent remission. Twice a grand mal attack occurred; three times there was only loss of consciousness for a fraction of a second with clonus of the lips which seemed to form words; and the patient was shouting his compulsory formula even before having completely regained consciousness. He was unusually excited, objected to any attempt at distraction, and kept shouting for several hours.

The occurrence and duration of apnea and cardiac arrest during the treatments is shown in Figure 1.

BLOOD PRESSURE

A considerable rise in the systolic blood pressure was observed immediately after the shocks with prolonged apnea and cardiac arrest. (Figure 2.) The diastolic pressure never rose noticeably and sometimes even dropped. In about 20 minutes, the blood pressure always returned to the original level.

To an equal degree, there was a rise in the frequency of the pulse rate after the attacks, specially marked after those with apnea and cardiac arrest.

TESTS

Starting with the second shock treatment, the patient was subjected to a number of tests as simple and as well adapted to his

intellectual capacity as possible. (Because of the man's reluctance to cooperate, plans were dropped for application of the Rorschach test.) The tests given aimed:

- (1) To comprehend and define the amnesia in its characteristics as precisely as possible; and
- (2) To examine the other mental functions during the amnesia.

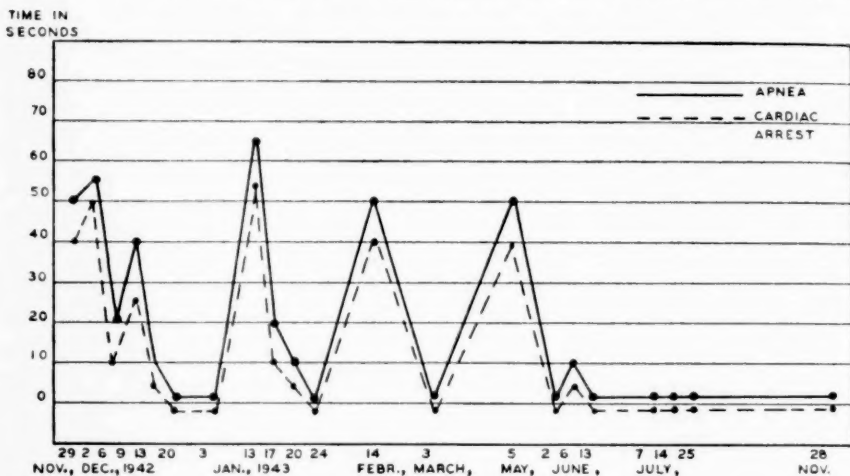


Figure 1. The graph shows that after 11 out of 21 electric shocks there was apnea accompanied by cardiac arrest of varying duration. Note the decrease in duration of apnea and cardiac arrest after successive shocks.

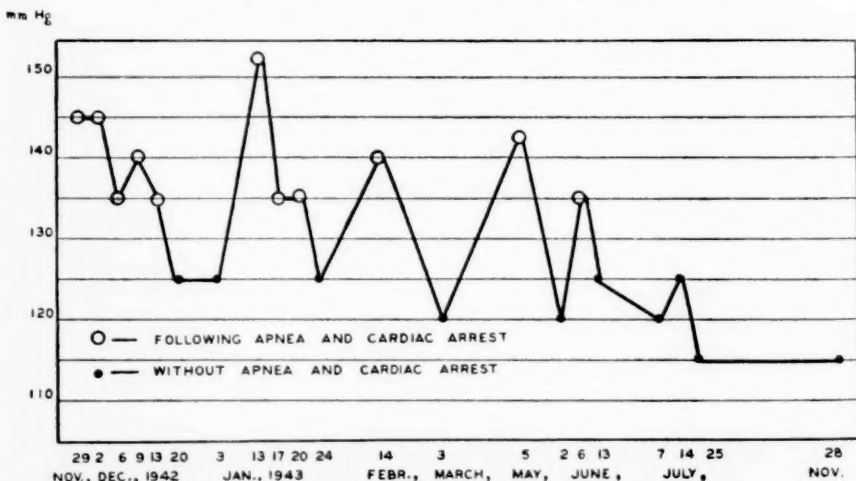


Figure 2. The graph shows the rise in the systolic blood pressure following prolonged apnea and cardiac arrest.

Test 1

The patient was regularly asked concerning his memory of remote things, e. g., "How long have you been in Jerusalem? Where do you live? Are you married? How many children have you? Only sons? How many daughters? How old was the daughter?"

Later, the question was added: "Do you understand Arabic?" An attendant was ordered to repeat some of the questions in Arabic. The patient answered unhesitatingly in Arabic without seeking for words as he sometimes had to do when speaking Hebrew. The patient, by the way, continued to speak Hebrew spontaneously and stuck to his second language. This habit was neither touched by the amnesia nor affected at all during the course of the psychosis.

Asked whether married or not, M. N. unhesitatingly answered in the affirmative but was not able to recall exactly how long. (The same results followed a check test without shock.)

Asked for the period of his stay in Jerusalem, for his address, for the number of his children and for their sex, he answered only after long latent periods increasing in the given sequence of questions from one to six minutes. He failed to recall the age of the daughter who had died only while he was in hospital. (He succeeded in recalling it immediately during the check test.) It took about 10 minutes before he could give the name of the firm where he had been employed for more than 20 years. He failed to recall and acknowledge the fact of his having been dismissed, as he failed to recall the arrival of the police and the arrest of his son. He almost habitually recalled his son last, even after the names of the doctors and attendants or simultaneously with them.

Test 2

(a) The patient was requested to read from a Hebrew prayer book. After a moment of hesitation he started reading correctly but interrupted himself at once, asking: "What does it mean? What have you done with me?" After some more requests, he continued to read correctly.

The therapists desisted from a written test as the patient, though not illiterate, was completely untrained and awkward and per-

sistently objected to writing. This was the case during the check test, too.

(b) A rectangular sheet, a circular sheet and a parallelogram with inclination to the right, were shown successively to the patient. He hesitated a long time—almost three minutes—before copying in the air the shape of the rectangular sheet; he required only 14 seconds for the circular one; but he did not succeed in less than four minutes in giving the right-side inclination of the third one.

(c) The patient met with no peculiar difficulties in recognizing colors and answered appropriately in each case in less than one minute.

(d) His ability to see perspectively was tested with negative results; the patient said stereotypically that he was giddy and did not enter into the details of the test. (During the check test he was uncertain but attained to approximately correct values.)

(e) In order to test his capacity for retention a new doctor, Dr. M., was introduced to him. At another time, he received a sheet with the hospital's heading and under it a simple calculation with a sum composed of two figures, 25. Some hours later—the patient was shouting again—he correctly stated the name of the doctor whose visit had obviously interested him. He also remembered the sheet, recalled its heading and knew that there was a calculation on it but failed to give the two-figured number. At another time, he was asked to put the sheet into his coat pocket. Later on he reached, without hesitation, to the right pocket and, smilingly, returned the sheet. During the last test of this kind—after the fourteenth shock—he testily replied that he believed the number was “in the twenties.”

The occurrence and duration of his amnesia is shown in Figure 3.

EFFECTS OF CONTINUOUS NARCOSIS AND FULL NARCOSIS

Between March and September, 1943, the patient was put nine times in all into a state resembling narcosis or into full narcosis: four times by intravenous injection of “sommifaine” followed by intramuscular injections; three times by combining “medinal” and “sommifaine;” once by “luminal” together with “medinal;” and once by “evipan.”

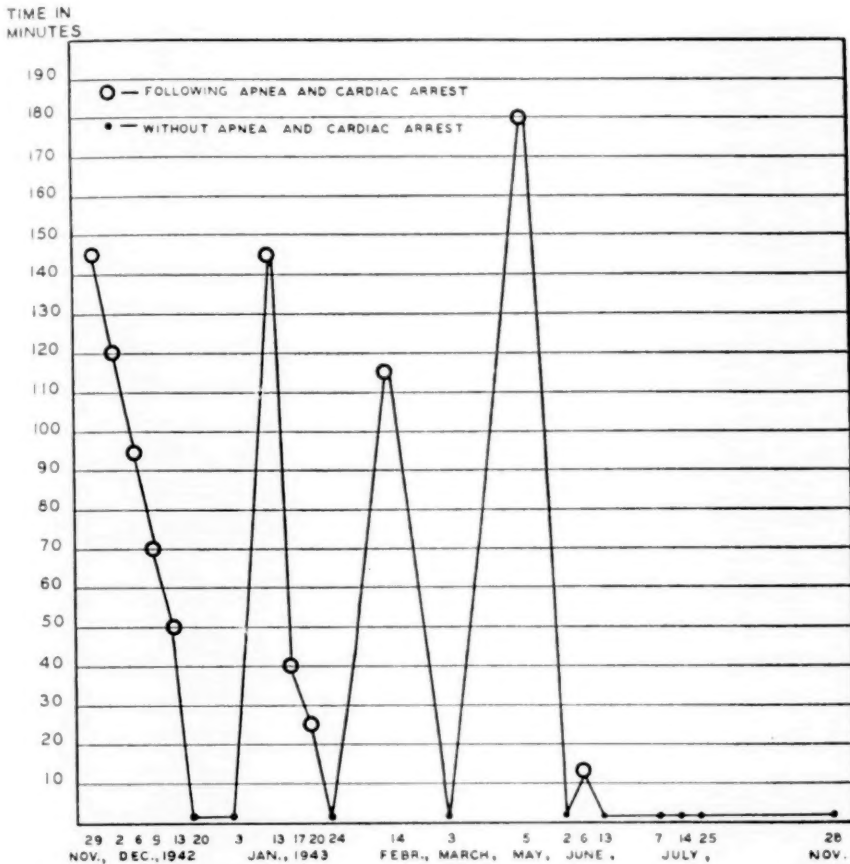


Figure 3. The graph shows the occurrence and duration of amnesia with subsequent short remission. Note strict correspondence to the duration of apnea and cardiac arrest (Figure 1).

In every one of the nine instances, the patient waked up without impaired memory or any other after-effect. He quickly recovered physically without showing signs of a euphoric state or any other favorable effect. He started shouting immediately after having waked up and was not more easily distracted than usual. He never revealed any readiness to talk about his fear and its connection with the thefts of his son, as he used to do following the amnesia after the electric shock.

EFFECTS OF INSULIN TREATMENT

In November, 1943, it was decided to attempt treatment with insulin.

The electrocardiogram (Figure 4) hinted at an emphysema with slight participation of the myocardium but did not offer an absolute contraindication.

On November 21, 1943, treatment by insulin was started. On the third day of the treatment, the patient went into precoma after an injection of 40 units, drank 350 grams of dissolved sugar and fell into a short coma immediately afterward. After 15 minutes, he awoke following an injection of 25 cc. of glucose (50 per cent). There was a slight euphoric state and press of speech, no amnesia.

The next day, he received 45 units. Two hours after the injection he fell into a coma, which was interrupted by gastric tube after 40 minutes. The patient did not wake up after the tube feeding, again got 25 cc. of glucose (50 per cent), and then awakened immediately. He had remained in coma for one hour and 10 minutes. His pulse was 64, rhythmic, full; the blood pressure: 135/80. He was in a euphoric state, with press of speech, but persistently avoided questions concerning his fear, his son and his son's arrest. He started shouting after only a few minutes. The euphoric state disappeared very quickly.

After a short while he complained of pressure in the heart region; he did not feel well, he was weak. At that time, his pulse was arrhythmic, with frequent extrasystoles. The patient lay exhausted for the next two hours and continued to complain of heart pressure and nausea.

An electrocardiogram (Figure 5) taken one and one-half hours later showed severe arrhythmia, auricular fibrillation and auricular flutter.

It was necessary therefore, to stop the insulin treatment. The patient recovered extraordinarily quickly, the very next day he was free of complaints and could hardly be kept in bed. His pulse was 72, rhythmic; blood pressure, 115/75.

An electric shock (115 volts, 0.2 seconds and 750 milliamperes) three days after the last insulin treatment caused no complications, but failed to produce an attack. There occurred only loss of con-

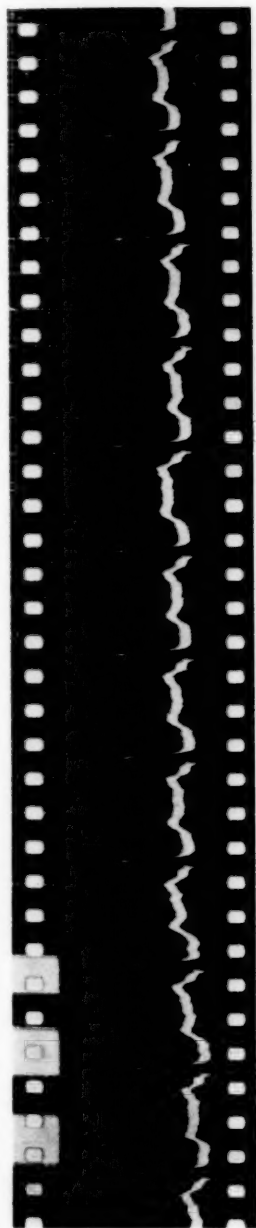


Figure 4. Electrocardiogram before insulin shock treatment. (EKG from Hadassah University Hospital.)

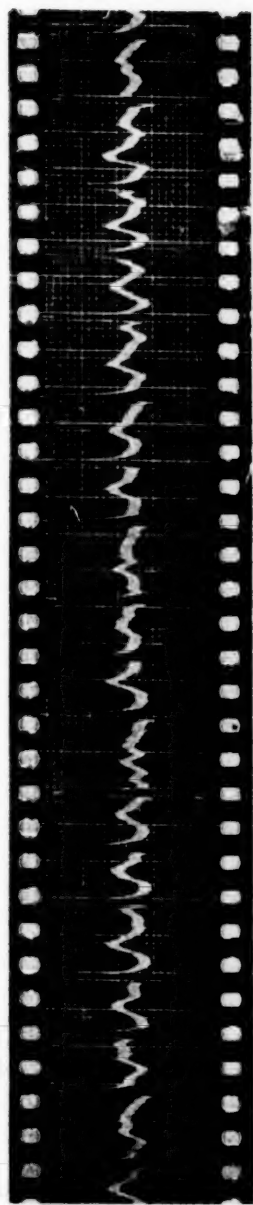
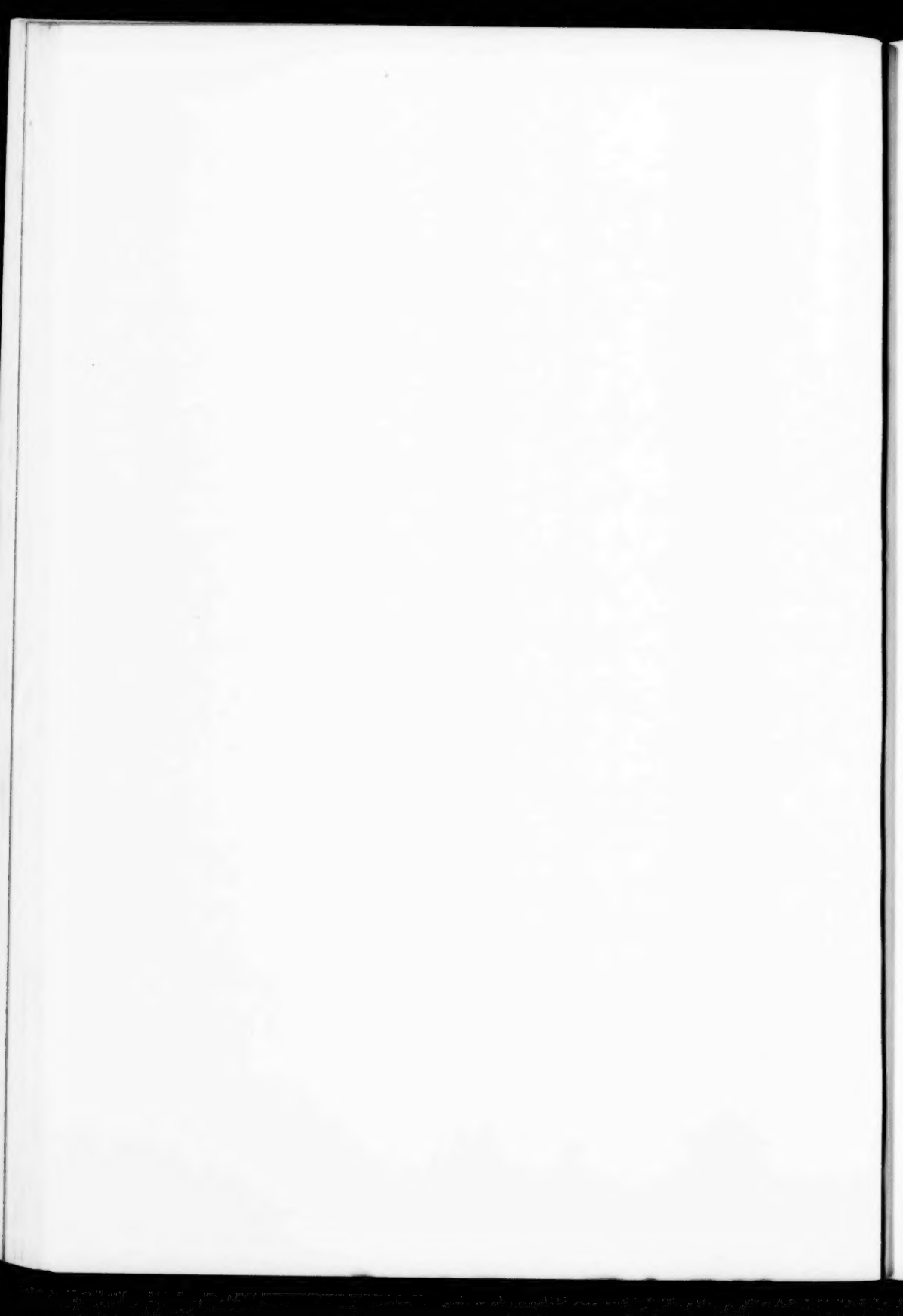


Figure 5. Electrocardiogram, November 24, 1943, showing severe arrhythmia, atricular fibrillation and atricular flutter.



sciousness with hardly visible trembling of the lips. Shouting followed immediately, with increased excitement for some time afterward.

ANALYSIS AND DISCUSSION

This case is completely devoid of the confabulation typical of the Korsakoff syndrome, as well as of affective disturbances.

By Test 1 and during the course of the electric shock treatment, the writer got the ever more distinct impression that he was faced with a case of lacunar memory defects, sharply outlined and going back to the shock caused by the arrest of the son. More remote material was recalled after some hesitation or appeared immediately. The moment the amnesia disappeared, the patient developed relative insight and detachment from his paranoid ideas. He then remembered the moment of the outbreak of his illness—the arrest of his son. He was able again to live through the fear for his son and he said: "I knew he was a thief, I knew it all the time. I was always afraid that something would happen. That's why I always lived in fear." Overwhelmed by the reproduced fear, he started to shout again, as if shouting must drown his fear.

The patient failed to gain deeper insight even during greater psychic accessibility in the euphoric state. Though being able to reproduce the fear he felt for his son, he could not bridge the gap between this fear for his son and his ideas that he himself was being persecuted, his asking for mercy for himself and his asserting his own innocence.

The bridge leading from his feelings of guilt to his fixed idea of reference and, finally—in the dramatic scene with the police—to his identifying himself with the crime of his son, cannot be grasped again by him. Even when he is pushed toward it, he is unable to find the way. Here he remains involved in obscurity.

Subsequent to the amnesia, however, he gained relative insight each time. The writer tends to follow Bychowski's assumption that even deeply repressed and completely inaccessible material is being washed up subsequent to the amnesia.⁵ Thus it became primarily accessible, opening the way to insight. The limits set in this respect to the present rigid and frozen case might well be the reason for the absence of a real therapeutic success. Structural change in

the brain cortex—probably of arteriosclerotic nature—might well be the cause of these limits to the therapeutic effect.

The test of the intellectual functions showed retardation as the most significant characteristic.

In the special senses, only the ability to see perspectively seemed to be directly impaired. This was in addition to impaired balance.

The capacity for retention, on the other hand, functioned well, rather better than before treatment; a fact possibly resulting from increased attentiveness and capacity for concentration toward the end of the amnesic phenomena.

A comparison of Figures 1 and 2 shows an interdependence between prolonged apnea and cardiac arrest. These necessarily led to cerebral anoxia and sympathetic stimulation. Gellhorn and co-workers stress the rôle of sympathetic stimulation in "shock" therapy.⁶ The frequency of sympathetic stimulation in convulsive treatment has been pointed out by Reznikoff and others.⁷

The complete ineffectiveness of the real grand mal attack with convulsions is unusual. There are isolated observations of therapeutic results with petit mal attacks, too,⁸ but the writer's clinical experience with electric shock corresponds with the observation of most authors⁹ that grand mal attacks are necessary to obtain therapeutic results.

The nature of these grand mal fits, however, is not yet clear. A suppression of the convulsions by curare¹⁰ or by spinal anesthesia¹¹ does not by any means impair the effects of the treatment. Recent research on animals¹² supports the assumption that both the risk of grave brain damages and hemorrhages can be removed by eliminating the convulsions.

The voltage applied in the writer's convulsion-less attacks was rather lower than that applied in the grand mal attacks; the milli-ampereage fluctuated in both cases but remained high almost throughout. The writer could not come to any definite conclusion about the importance of placing the electrodes exactly on each side of the frontal poles. He cannot say whether altering the position of the electrodes toward the area of the cortical respiratory center¹³ produced the prolonged apnea, but the possibility cannot be excluded. In connection therewith, it is interesting to note that the electric shock given only three days after insulin treatment was

stopped—because of serious heart complications—was tolerated without cardiac or respiratory distress.

Figure 3 shows the interdependence between prolonged apnea and cardiac arrest on the one hand and the amnesia with short remissions on the other. The importance of the apnea has been stressed previously.¹⁴ Several investigators assume that a cerebral anoxia is the essential common factor in "shock" treatment.¹⁵

"Shock" treatment causes a transitory damage of the brain of varying degree—either by anoxia alone or together with other physicochemical changes—which interferes with the coordination of the brain functions, thus temporarily disconnecting psychotic material and flattening affective tensions. The psychosis itself is not destroyed but only transitorily separated from consciousness. Electroencephalographic research¹⁶ seems to support the conclusion that clinical improvement after electric shock treatment generally depends on "changes correlated with amnesia or other evidence of impaired mental function."

SUMMARY AND CONCLUSIONS

Clinical observations in connection with the occurrence of 11 short remissions subsequent to an amnesic syndrome during electric shock treatment in a 53-year-old paranoid patient are reported; and the following conclusions are drawn:

1. The amnesic syndrome appeared only subsequent to prolonged apnea and cardiac arrest and was accompanied by moderate sympathetic stimulation.
2. An interdependence between the cerebral anoxia—produced by apnea and cardiac arrest—and the sympathetic stimulation, as well as the amnesic syndrome, is assumed.
3. The amnesia was of the lacunar type and showed exactly the same sharp outline each time. It went back to the moment of the outbreak of the illness and especially affected events of psychogenic importance.
4. Tests of the intellectual functions showed: (a) a marked retardation of recall, especially for psychogenically important material; (b) an unimpaired capacity for retention of new material;

(c) failure of the amnesia to affect the second language, acquired by the patient during his late childhood; (d) a noticeable disturbance of stereoscopic orientation.

The probable importance of the cortical respiratory center in electric shock treatment is pointed out.

The therapeutic mechanism of convulsive therapy is discussed.

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PSYCHOSOMATIC ASPECTS OF ALLERGY

BY LOUIS J. KARNOSH, M. D.

No neurologist or psychiatrist can ignore the multifarious emotional, mental and neural phenomena which are interlocked with the allergic reaction in human tissues. It becomes more and more apparent that this reaction involves every level of the nervous system from the highest and most elaborate centers in the cortex to the humblest sympathetic terminal in the capillary loop of the skin. Protein hypersensitivity may, therefore, express itself as headache, dizziness, vomiting, convulsions, paralysis, psychosis or merely as a mild eczema, urticaria, angioneurotic edema, or an excessive local sweating.

That the brain is capable of a direct and profound reaction to protein hypersensitivity is not merely a matter of clinical speculation. It has been clearly demonstrated by many investigations made upon the laboratory animal. This particular reaction is known as the Arthus phenomenon. Using a single sensitizing intraperitoneal injection of horse serum in guinea pigs, Alexander and Campbell¹ then reinjected the antigen directly into the brain. The resulting lesion at the site of the brain injection was one of violent pathology including hemorrhage, thrombosis, necrosis, scavenger cells and a glial proliferation. Davidoff, Seegal and Seegal² observed the same response after multiple sensitizing injections of the horse serum.

Jervis, Ferraro, et al.³ observed two types of response in the brain, one at the site of the intracerebral injection and a second or more diffuse brain response which involved the more remote areas of the central nervous system.

Hence, the contentions of many clinicians that such conditions as migraine, Ménière's disease, infantile convulsions, transient paralysees, and psychosis are expressions of allergy within the cranial cavity are not entirely without rational support.

More recently, particularly by such investigators as Kennedy,⁴ and Bennett,⁵ the peculiar disposition of the circumflex nerve to paralysis following horse serum injection for tetanus prophylaxis has been reported. In the Cleveland City Hospital clinic, the writer

has seen four such patients with severe deltoid paralysis after serum injection, although the site of introduction of the serum was not in this region. The paralysis usually follows a severe brachial plexus neuritis of several days duration associated with excruciating pain about the shoulders. The deltoid paralysis becomes extremely disabling and proceeds in many instances to a pronounced atrophy. Usually, the eventual outcome is a complete regeneration within a year, except in badly neglected cases. Why there is this selective action upon the circumflex nerve, is a mystery.

In a recent symposium on neural allergy in the New York Academy of Medicine, it was argued that many forms of retrobulbar neuritis and the ophthalmoplegia in migraine are also specific expressions of allergy in the nervous system.

All these very objective phenomena leave no doubt that allergy in the nervous system is a positive and potent source of nervous and mental disorder in man. The nervous system is necessarily involved even in the most benign of allergic reactions which occur in areas and tissues remotely situated from the nervous centers. In each reaction to protein sensitivity, however slight it may be, a shock occurs; there is spasm of smooth muscle, and hyperactivity of a glandular secretion. This always implicates some nervous mechanism, even though it may be but the terminal network of the sympathetic plexus.

Far more intriguing to psychiatrists who have studied allergy is the question of the influence of the mind on the allergic lesion and, conversely, the influence of the allergy upon the mind of the patient.

This problem allegedly belongs to the realm of psychosomatic medicine. In some respects, this new branch of medicine, with its pompous terminology, is a little presumptuous because it purports to demonstrate something new when actually a good deal of it is merely "new cackling over an old egg." It has long since been recognized that the mental state of a person profoundly influences the physiology and the health of a person. Emotional states may contribute to the formation of a gastric ulcer; they may aggravate a hypertension and even change a red cell count on the basis of sympathetic stimulation, but much of the evidence is coincidental and is seen to be based on *post hoc* conclusions.

Moreover, the logic of mind influencing disease and bodily disease influencing mind is scientifically unacceptable and suggests a merry-go-round form of futility. Cause and effect relationship is obscured, and reasoning is often as productive of results as is the dog who is desperately in pursuit of his own tail.

But it can be argued that in this compact and closed circle of causative relationship, if one can reduce the emotional tension, and if one can allay the allergic reaction, one is palliating the symptoms even though the vicious cycle remains unbroken.

There certainly is good clinical evidence that emotional and mental disturbances do aggravate an allergic state. It cannot be denied that mental upsets incite an angioneurotic edema; every psychiatrist recognizes the fact that mental excitement may provoke a bad pruritis; there is continual evidence that in involutional melancholia, allergic reactions, neurodermatoses, pruritis and skin blemishes appear which have never occurred before; that in involutional psychosis, allergic states are exaggerated, where these were only minor grievances before; and lastly, many longstanding allergic states actually disappear when the involutional mental troubles begin.

Most convincing demonstration of skin allergy and its close parallelism with mental disease was observed by the writer in a 22-year-old man with schizophrenia.

The patient had been suffering with an intermittant rash of the face and the exposed portions of the hands from his seventeenth year. This rash became worse every winter. The lesion progressed to an angry exudation with fissuring, weeping and much desquamation, particularly over the malar areas of the face. Investigations by dermatologists and allergists declared it a sensitivity phenomenon. The boy was found to be allergic to feathers, house dust and several specific food proteins. Specific desensitization and withdrawal of offending factors caused only a mild degree of improvement. In his eighteenth year, the patient became seclusive, quit school and took to brooding over his facial blemish. He became sullen, disinterested and finally silly and unpredictable in behavior. He picked at his face and hands and developed many small areas of secondary infection.

When admitted to the psychopathic hospital, the young man displayed the typical mental symptoms of dementia praecox. The face and hands were covered by a rash which had all the composite features of a severe dermatitis. It was necessary to restrain him to protect the tissues from his fingers and fingernails.

The patient received insulin therapy with 12 comas. Thereafter, he began to show a dramatic mental improvement. He became friendly, cooperative, talkative and cheerful. Most impressive was the coincidental improvement in the skin condition; this became so gratifying to the patient himself that he took to admiring his countenance in the mirror and expressed great anticipations as to the fine impression he would shortly make upon his folks and his schoolmates when discharged.

Unfortunately, three weeks later he had a mental relapse; and, simultaneously, the skin lesions became worse. A second insulin routine was imposed, and again there was a parallel improvement in the mental picture and in the skin lesion.

For a third time, the patient relapsed. So constant was the congruity between the mental condition and the dermatitis that the nurses on watch became accustomed to the habit of measuring his mental state by the contemporary state of the skin lesions—a most convenient and tangible method of psychiatric observation. Here one has an example of a mental disease which was drastically modified by treatment; and this, in turn, modified the course of the allergic disease. Can it be said safely which is cause and which is effect? The answer is no, for the evidence may well be coincidental. It cannot be proved that the insulin treatment served to modify two separate conditions, with no direct causative relationship existing between the two.

There are several good lines of reasoning which show that emotions and allergies are interlocked and that exacerbation of one condition enhances the other. Both of these reactions in the human being utilize the same mechanisms for their expression.

Take, for example, such an overt tissue as the skin. We know the skin is more than mere tegmentum; it is a highly elaborate organ. What we overlook is the fact that the skin is a powerful organ of emotional expression—perhaps next to the voice and the facial muscles, it is the best expression of human feeling we can freely

observe. We need only refer to the blush phenomena in self-consciousness, to the paroxysmal sweating in anxiety states and to the sallow, lemon-tint in melancholia. Itching, like pain, may appear at the site of psychic fixation.

The very same sympathetic nervous excitements in the skin, such as vasomotor irritability, increased sweating and pilomotor excitement, are expressions of the emotions as well as of allergy. From this alone, it can be argued that allergy and emotional disturbances employ the same dynamics—one reinforcing the other. The same argument applies to the respiratory mechanism. Hyperpnoea with constriction of the bronchi and hypersecretion is a familiar feature of the emotional tension—it is equally dynamic in the asthmatic-coryza complex in allergy.

Hence, there is good rationale in the admonitions of Forman⁶ who advises that emotional strains must be removed from the life of the asthmatic or allergic child just as often as offending allergens are withdrawn, for in both instances, one is relieving the tension placed on the smooth muscle mechanisms which are involved in both emotional and allergic conditions.

What does the allergic condition, once it is firmly established, do in turn to the mind and the psyche of the afflicted person? Is there such a thing as the allergic personality? Balyeat⁷ would have us believe there is such a psychological entity. He makes the claim that the allergic person is usually mentally superior. A number of pediatricians who have studied this aspect of allergy found no intellectual variation from normal. Use of the Pintner Personality Outline Tests on allergic children, has revealed no consistent finding of intellectual precociousness. Allergic girls have been found to be more stable emotionally than a similar group of normal girls. Allergic girls are better adjusted than allergic boys. All allergic children are found to be more submissive than aggressive, more introverted than extroverted. None of these evaluations, however, have any ultimate value, for usually the samplings are too small to allow sweeping generalizations.

Allergic people are like other sick people—their reactions are dictated not only by the gravity of the disease and by its duration, but the particular pattern or mental attitude is greatly colored by what we choose to call the innate temperament of the person.

Probably more potent than anything else which has to do with the allergic personality is the influence the disease may have during the growing years. Like endocrine disease, allergy is most dangerous to the psyche in the formative years. The affect of allergy on bone growth, dental development and bodily contour is well known and can be easily measured. Its influence on mental and particularly emotional growth is more elusive and intangible.

Severely allergic children often live the life of cripples, which they are, in fact. They are oversheltered, limited in exercise, and social contact, hovered over and often driven into introversion and a recessive trend. If handled poorly, they may learn to capitalize upon their illnesses and utilize them as buffers against assuming responsibilities at school and at home. Naturally, this tendency should be dealt with very early, for it is the groundwork of chronic hypochondriasis. Such recessiveness may endure long after the allergic state has been relieved and may stigmatize a person even through adult years.

Frequently, the opposite reaction may occur, namely, overcompensation. If the child is disabled in certain physical activities—if his social life is contracted—he may of his own accord, or through encouragement by his parents, develop a precocious capacity, such as drawing, music, etc. This may or may not be eventually a good thing, for one never regards such people as wholesomely balanced, and experience shows that they are frail vessels against later emotional and mental impacts.

In adults with severe asthma, hay fever or stubborn skin allergy, the psychological reactions to the handicap may take a very serious turn. Irritability and extreme touchiness is almost a common denominator, particularly if the allergic condition is adamant to treatment. A few patient souls suffer in their own quiet way. The disruption of work, the necessity of frequent treatments, the tedious preparation of a pollen-free environment and the necessity to travel to areas of geographic relief are all factors which unsettle the allergic patient.

Some adults with allergy, who are particularly touchy, may have periods of rebellion, open defiance, resentment and self-pity. The mental state may approach a paranoid condition wherein the patient believes himself to be visited by a malignant destiny. In bit-

terness, he exclaims: "Why must this happen to me?" Some such patients even project their suspicions on doctors, relatives and friends, expressing the beliefs that they have been cursed in some strange manner through their maladies. Happily, such extreme mental reactions are rare.

Fortunately, one encounters less rarely, the individual who is disposed to depression and who, having been bedeviled by an allergy for months and even years, can find only intermittent relief from his torments. Each remission is followed by relapse, and hopes of relief are crushed to earth. A sense of futility arises; the round of specialists is made, and the feeling of hopelessness deepens. Unfortunately, this type of person may not give free expression to his dejection, and suicide may be a sudden and unpredictable event. This has occurred in two instances in the writer's own experience. One calls these cases "reactive depressions," implying that had there not been an aggravating and stubborn allergy, there would have been no depression. However, it must be pointed out that careful family investigation will usually reveal the constitutional or latent tendency to melancholia.

In men, another reaction has been noted—a disposition to escape from the distresses of allergy by taking to drink. This again is not very frequent. In fact, the average allergic male is not a drinker. Nonetheless, it is understandable why a drinker would easily justify his excesses by blaming it on allergic disease—even though the fundamental cause may be something else. Here the allergy serves as a convenient agent of rationalization.

The more one studies allergic patients, who suffer from "nervousness" or take an "erratic slant" at themselves and their troubles, the more one recognizes that these nervous reactions are not greatly different from those which follow in the wake of any chronic, irksome, disabling and irritating affliction. An allergy is such an affliction. Such experiences clearly demonstrate that even though one cannot establish a causative relationship between allergy and nervous and mental disease, it can be said that almost always, to some degree, the two afflictions are concomitant in the same person. No allergic patient can be adequately evaluated without considering the personality structure in which the disease is implanted.

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AN OBJECTIVE APPROACH TO THE PERSONALITY AND ENVIRONMENT IN HOMOSEXUALITY

BY MAJOR CARL H. JONAS, M. C.

This paper consists of a report on 60 cases of overt homosexuality. The literature shows that the methods of reporting on homosexuality are as variable as the authors' interpretations and conclusions. It is apparently rather difficult to maintain a purely objective viewpoint in collecting and interpreting the findings. This difficulty seems to be as influential in maintaining the divergence of opinion on the etiology of homosexuality as any contrasting data presented. This report was begun with the express purpose of limiting the recorded data on homosexual individuals to purely objective material in so far as that was possible. In making such an approach, certain sacrifices in the form of completeness of information have to be recognized. However, the purpose of this paper is the finding of what conclusions are available from such restricted accumulation of data.

METHOD OF APPROACH

Objectivity and clarity demand that no cases of so-called latent homosexuality be included. The 60 cases reported are male overt homosexuals. An overt homosexual in this paper is an individual who has had one or more sexual contacts with a member of his own sex. Sexual contact is interpreted here to mean a passive or active participation in fellatio or pedication. An individual was accepted as having participated in homosexual activity if he made a verbal admission of such action and gave a history and emotional response pathognomonic of such an admission, or if he was witnessed in the act. The data was collected over a period of 20 months by the direct interview method. The cases are tabulated roughly in the order in which they arrived for examination.

The information contained in Table 1 in columns 1 to 12 inclusive following the identifying case number, is purely historical and is to a large degree self-explanatory.

In the column of data (column 9) dealing with patients who have been orphaned, the figures indicate the age in years when orphaned; and the figures in brackets indicate that, although one parent of the patient lived, the patient was reared exclusively as an orphan.

The material contained in columns 13 to 21 inclusive is primarily objective. To establish the maximum objectivity, definite criteria for eliciting the material were set up. After a routine medical history was obtained and rapport established, specific questions were asked in connection with the family history.

In order to tabulate a patient as "favoring mother" or "favoring father" the patient was asked the following questions:

- (1) "Do you have a favorite parent?"
- (2) "Whom do you prefer as a confidant when worried or in need of help?"
- (3) "With whom do you get along better?"

If all three of the questions were answered in the affirmative for the mother and with a total exclusion of the father, the patient was classified as "favoring mother." If all three were answered in the affirmative for the father, the patient was classified as "favoring father."

To file a patient as acting as "suitor to mother" the patient was asked the following questions, only if he had already expressed himself as "favoring mother:"

- (1) "Are you very attentive to your mother, send her presents, take her out to shows and dinner?"
- (2) "Do you take your mother to parties and social gatherings?"
- (3) "Do you prefer to go out with your mother rather than girls of your own age?"

If two of the three questions above are answered in the affirmative the patient is classified as acting as "suitor to mother."

As a recheck for the preceding answers and as a prelude to the questions related to patient-father rivalry the patient was asked questions similar to: "How do you get along with your father?" "Do you confide in your father?" "Do you go on trips with your father, hunting, fishing, or to shows?" Then the following three questions were asked:

TABLE 1. OVERT HOMOSEXUALS

Patient's No.	White	Negro	Age	Age onset	Only child	Youngest child	Mental defective*	Social level and behavior pattern
	1	2	3	4	5	6	7	8
1.	X		30	30	X			High school teacher
2.		X	23	20				
3.	X		31	21			†	Failed three grades in school
4.	X		30	14		X		Girlish and effeminate behavior
5.	X		23	16		X		Professional musician
6.	X		22	15		X		Girlish and effeminate behavior as a small child
7.	X		20	15		X		Girlish and effeminate behavior as a small child
8.	X		22	16				Girlish interests as a child
9.		X	24	12	X			Girlish and effeminate behavior as a small child
10.		X	23	23				
11.	X		27	15				
12.		X	23	10				
13.	X		19	17	X			Deserter, forger
14.		X	19	19				
15.	X		27	12				
16.	X		23	15				Girlish and effeminate as a child
17.	X		22	18			65	Vagrant, thief, murderer, drug addict
18.	X		21	10		X		
19.	X		22	19		X		
20.	X		18	11		X		
21.	X		20	19	X			
22.	X		26	17				Alcoholic, epileptic, drug addict
23.	X		21	18			60	Thief, vagrant
24.	X		22	9				Girlish and effeminate behavior as a child
25.	X		24	22		X		Girlish and effeminate behavior as a child
26.	X		24	13		X		Girlish and effeminate behavior as a child
27.	X		19	12				Girlish and effeminate behavior as a child
28.	X		45	25				Vagrant
29.	X		23	15		X		Girlish and effeminate, vagrant
30.	X		26	16				Girlish and effeminate, vagrant
31.	X		18	18	X		69	Reformatory, thief
32.	X		22	22				
33.	X		19	17	X			
34.	X		24	19			47	
35.	X		22	14				
36.	X		21	14	X			Girlish and effeminate behavior as a child
37.	X		29	16		X		
38.	X		27	14			56	Vagrant, philanderer
39.	X		29	17				Concert pianist
40.	X		28	15				
41.	X		21	†	X			
42.	X		18	14	X			Girlish and effeminate as a child
43.	X		20	18				
44.	X		22	11				Social worker, college graduate
45.	X		24	12				
46.	X		18	17		X		Girlish and effeminate behavior as a child
47.	X		24	16		X		
48.	X		20	19	X			
49.	X		21	13				Girlish and effeminate behavior as a child
50.	X		25	14				Deserter, vagrant
51.	X		18	11				Musician
52.		X	21	17				Petit larceny
53.	X		20	17				Alcoholic, larceny
54.	X		28	17		X		Vagrant, alcoholic, drug addict
55.	X		45	16				Religious personage
56.	X		27	15				
57.	X		19	15		X		Alcoholic, truant, gambler, drug addict
58.		X	19	13		X		Dressed in girl's clothes, played with dolls, effeminate behavior as a child
59.	X		18	13		X		Pianist, effeminate; girlish behavior as a child
60.	X		28	10		X		Girlish and effeminate behavior as a child
<div> <div>53 88%</div> <div>7 12%</div> <div>10 16%</div> <div>18 30%</div> <div>6 10%</div> <div>18—girlish and effeminate behavior as child 30%</div> </div> <div> <div>28 46%</div> </div>								

*Figures are army classification score.

- (1) "Do you argue frequently with your father?"
- (2) "Did you ever actually threaten or attempt to kill your father?"
- (3) "Do you recall any time you wished your father dead?"

If two out of three of the last three questions were answered in the affirmative, the patient was considered as having given adequate reason to be tabulated as "hating father" and was charted as such.

The classification of "neutral or unknown" affections toward parents was used when the responses to the questions were ambiguous or conflicting. When the patient was an orphan, he was also classified as being "neutral or unknown," the only exception being when an orphan was adopted by foster parents and showed a definite preference for one of the foster parents.

As to the evaluation of the degree of maleness and classification into one of the three groups; decisively masculine, nondecisive, or feminine, the following signs were used as determinants. An individual was classified as being decisively masculine if he had all of the following:

- (1) Thick growth of facial hair,
- (2) Diamond-shaped pubic hair distribution,
- (3) Well-developed external genitalia.

An individual was classified as being nondecisively masculine if any one of the given conditions was absent or if, as in most cases, there was only a moderate degree of development of the beard or incomplete diamond-shaped pubic hair configuration.

If any two of the given conditions were very poorly defined and in addition there was a semblance of feminine fat distribution, the patient was classified as being feminine.

This phase of the examination is the phase which offers the most opportunity for subjective variation. However these traits were evaluated with the greatest of caution, and only truly decisively masculine characters were allowed to appear in that column. It is worthy of note that many of the patients showed effeminate mannerisms; and these were ignored in the evaluation. They are considered exotic traits without a place in the determination of true biological maleness. For example, a patient volunteered in the course of the examination that he was trying to develop a high

pitched voice and spent hours practising speaking in that manner because he believed a high pitched voice more musical and beautiful and he stated he actually detested his natural more typically masculine voice. This patient, along with others, had cultivated feminine gestures, postures and gait, which are not considered signs of endocrinological feminism.

Physical habitus was charted on the basis of costophrenic angle, contour of head and heaviness of skeletal structure into either the asthenic, athletic, pyknic or dysplastic types.

Finally, the same technique of questioning and classifying was applied for the controls. The controls were chosen at random from convalescent surgical patients and are tabulated in Table 2.

RESULTS

There is a remarkable lack of uniformity in the data obtained—on casual observation there is nothing to indicate that the material represents data on a so-called clinical entity.

The ages of the patients ranged from 18 to 45. The ages at onset of overt homosexuality were given as from nine to 30 years of age. There were 28 cases of homosexuals who fell into the position of being either only children or youngest children in contrast to 16 cases among the controls. It may be noted that the tabulation of patients as to whether they were only children or youngest children was made purely as a trial study, on the basis that it might be of value as a supplementary indication of predisposition for the development of mother identification and Oedipus factors. The rationale was that since mother identification had long been recognized as a possible etiological factor in homosexuality (Freud¹ and Bender and Paster²), and that since maternal influence and emotional demands were probably greater upon the only child and similarly upon the youngest or "last child," it seemed possible that an increased incidence of homosexuality might be expected in these two sibling types.

In so far as the social level and behavior patterns are concerned, the gamut of extremes was found. There were 10 cases of anti-social behavior, including one individual involved in homicide and four cases of simple vagrancy. On the other hand, other cases represented all degrees of social achievement including a high school

TABLE 2. CONTROLS

Control No.	White	Negro	Age	Only child	Youngest child	Mental defect	Orphaned	Parental separation	Father died	Mother died	Favored mother	Suitor to mother	Hated father	Favored father	Neutral or unknown	Masculine	Nondecisive	Feminine	Habitus
1	X		28					12		0	X			X	X	X			Asth.
2	X		36													X			Athl.
3	X		21								X			X		X			Asth.
4	X		18													X			Pyk.
5	X		32							12					X	X			Athl.
6	X		22								X				X				Athl.
7	X		27													X			Asth.
8	X		24								X				X	X			Pyk.
9	X		23								X				X	X			Athl.
10	X		27						4	5	X					X			Athl.
11	X		25	X							X					X			Pyk.
12	X		34							2				X		X			Athl.
13	X		28								X				X	X			Asth.
14	X		24												X	X			Athl.
15	X		31												X	X			Asth.
16	X		24												X	X			Athl.
17	X		34												X	X			Asth.
18	X		26				10								X	X			Athl.
19	X		21												X	X			Asth.
20	X		23												X	X			Athl.
21	X		21												X	X			Pyk.
22	X		30							2				X	X	X			Athl.
23	X		28							7					X	X			Asth.
24	X		25												X	X			Pyk.
25	X		25												X	X			Asth.
26	X	X	44												X	X			Asth.
27	X		23												X	X			Asth.
28	X	X	27	X				5			X				X	X		X	Athl.
29	X		38												X	X			Asth.
30	X	X	29												X	X			Athl.
31	X	X	25					5			X				X	X			Athl.
32	X	X	25								X				X	X			Athl.
33	X		27								X				X	X			Athl.
34	X		24								X				X	X			Pyk.
35	X		33								X				X	X			Asth.
36	X		22												X	X			Athl.
37	X	X	22												X	X			Athl.
38	X		23	X											X	X			Athl.
39	X		25												X	X			Athl.

TABLE 2. CONTROLS—(Continued)

Control No.	White	Negro	Age	Only child	Youngest child	Mental defect	Orphaned	Parental separation	Father died	Mother died	Favored mother	Suitor to mother	Hated father	Favored father	Neutrol or unknown	Masculine	Nondecisive	Feminine	Habitus
40.	X		25		X			15						X		X			Athl
41.	X		20											X		X			Asth
42.	X		20											X		X			Athl
43.	X		18											X		X			Asth
44.	X		26				0							X		X			Athl
45.	X		37				(4)							X		X			Asth
46.	X		38											X		X			Athl
47.	X		18											X		X			Asth
48.	X		22											X		X			Athl
49.	X		18											X		X			Asth
50.	X		22											X		X			Athl
51.	X		31											X		X			Athl
52.	X	X	27							9						X			Pyk
53.	X		20					4								X			Athl
54.	X		20		X					2						X			Athl
55.	X		25													X			Pyk
56.	X		20													X			Asth
57.	X		33	X												X			Dys
58.	X		23													X			Athl
59.	X		34											X		X			Asth
60.	X		24													X			
Total	54	6		5	11		3	5	2	7	18	4	1	9	33	32	27	1	
	90%	10%		8%	18%		5%	8%	3%	11%	30%	6%	1%	15%	55%	54%	45%	1%	
				16			Case total 17												
				26%															

teacher and a religious leader. It is interesting to note that 18 homosexuals had evidenced girlish mannerisms, reversed play and occupational interests at an age decidedly below that established as the onset of gonadal activity.

Disrupted domestic situations occurred in 24 cases of homosexuals as compared with 17 cases in the controls. Disrupted domestic situations were taken to be the summation of those cases in which the patient was orphaned, put under foster parents, or deprived of a home with both parents because of separation, divorce or death of one or both parents before the patient had attained adolescence.

Of the 60 homosexuals studied, 43 stated their unqualified favoring of their mothers as contrasted with 18 control cases. The contrast became more marked when the homosexual group contained only one case in which there was a preference for the father, whereas the control group showed nine such cases.

There were nine homosexuals who gave evidence of hating their fathers, against one in the controls.

There were 20 homosexuals who acted as suitors to their mothers, against four in the controls.

Among the neutral or unknown classifications, there were 16 in Table 1 and 33 in Table 2, the control group.

It should be noted that the control group was not made up of studied cases which in any manner could be classed as "normals," but is composed of random selections. It is possible that there were some homosexual individuals among the controls.

In the matter of secondary sex characteristics the findings were roughly parallel in the two groups, 33 decisively masculine, 24 nondecisive, and three effeminate in the homosexual group, to the 32 decisively masculine, 27 nondecisive and one effeminate in the control group.

In habitus, there were 11 pyknic, 23 athletic, 24 asthenic and two dysplastic types among the homosexuals, and five pyknic, 31 athletic, 21 asthenic, one dysplastic and 2 unclassified in the control group.

INTERPRETATIONS

The accumulated data indicates that overt homosexuality occurs in a heterogeneous group of individuals.

If homosexuality is predominately a disproportion in the androgen-estrogen ratio it becomes exceedingly difficult to explain satisfactorily the effeminate interests, desire to play with girls, to cook, to do housework, to act as a woman in the house for years before the advent of puberty in 18 of the homosexuals. And Neustadt and Myerson³ give assurance, in their studies, that there is no evidence of appreciable androgen or estrogen production before the tenth year of life.

As far as those are concerned who are proponents of hereditary, congenital or constitutional factors as prime determinants in homosexuality, the work of Kinsey⁴ presents the unavoidable conclusion that something around a half of the population possesses the hereditary, congenital and constitutional potentialities to react as homosexuals.

On the other hand, if mother identification is the sole etiological factor in homosexuality, the data shown here would indicate that only a part of the cases fulfilled these requirements. The psychological manifestations of mother identification make extended heterosexual relations highly improbable, and many of the patients had maintained both heterosexual and homosexual relations. Furthermore, some of the patients were orphaned at an early age, and had been shifted from home to home without a demonstrable mother-equivalent to be elicited in their histories. However, a point in favor of the theory that mother identification is one of the several psychogenic mechanisms, and probably the major factor, is the unusually high incidence of mother favoritism, suitor relationship and other Oedipus crystallizations in the homosexuals reported upon. The position of the patient in the family group may have some predisposing value according to the findings, for the incidence of patients among youngest and only children was above that of the control group. In this regard it is enlightening to notice how often and how freely both patients and controls admitted and accepted as perfectly natural the proposition that the "youngest child" is "mother's boy."

Among many other possible contributing psychic factors which may be considered, there are two which evoke attention in this report. The first concerns mental defectives who, as a class, have an impaired appreciation of the social nonacceptance of homosexual

activity. Because of their deficiency, they are vulnerable to any type of pathological sexuality and are apt to be easy prey to the aggressive homosexual. Several of the histories revealed that those in the homosexual group studied frequently submitted to homosexual advances because of the personal advantages and sense of importance they received as a result of the overtures of a homosexual. Others showed psychic trauma at being rejected by the opposite sex.

A second group could be made of the "opportunists," the strictly "constitutional psychopathic" type individuals who have defects in their moral senses and who are predominately rebellious and antisocial. Such persons are primarily interested in satisfying their immediate pleasure impulses—whether they involve theft or any form of pathological sexuality makes no difference. These psychopaths frequently rob and "use" their homosexual contacts for other than sex purposes, such as financial gains. Their homosexuality may be the incidental by-product of resentment against all forms of recognized authority and social standards. This group in some respects corresponds to the group Henry⁵ classifies on the etiological basis of "rebellion against paternal standards and discipline."

On this basis of typing homosexual individuals and by way of speculation, it is interesting to note the effect of dividing Table 1 into three parts—Table 3 composed of mental defectives; Table 4

TABLE 3. MENTAL DEFECTIVES

Patient's No.	Only child	Youngest child	Army classification score	Favors mother	Suitor to mother	Hated father	Favors father	Neutral or unknown	Masculine	Nondecisive	Feminine
3			?				X			X	
17			65	X					X		
23			60					X		X	
31	X		69					X			X
34			47					X	X		
38			56					X	X		
Total	6	1	0	1	0	0	1	4	3	2	1

composed of those cases showing various signs of antisocial behavior other than homosexuality; and, finally, Table 5, showing the remainder.

TABLE 4. "CONSTITUTIONAL PSYCHOPATHIC" TRAITS OTHER THAN HOMOSEXUALITY

Patient's No.	Only child	Youngest child	Army classification score	Favors mother	Suitor to mother	Hated father	Favors father	Neutral or unknown	Masculine	Nondecisive	Feminine
13	X							X		X	
22				X					X		
24				X						X	
28				X	X				X		
29		X		X						X	
30				X					X		
50				X	X	X				X	
52				X					X		
53								X	X		
54		X						X	X		
57		X		X						X	
Total 11	1	3	..	8	2	1	0	3	6	5	0

In constructing these three speculative tables, only those data were included which showed significant differences from the data obtained in the controls, the other findings being considered inconsequential. Table 5 then shows a considerable shift in the incidence of signs related to mother identification. At the same time, there is no corresponding shift in the ratio of the various secondary sex characteristics. The percentages of masculine, nondecisive and feminine characters remain the same.

This speculative manipulation tends to strengthen the importance of psychogenic factors in homosexuality and to minimize the value of hormonal variations in the dynamics of homosexuality.

Apparently some homosexuals are aware of the Oedipus factor in producing their libidinous drives. It is significant how emphatic many patients are in professing their love for, and dependance on, their mothers. In a case report appearing in Hamilton's articles,⁶ there is an account of a homosexual "street walker" who was seeking a sexual partner. He approached his prospective mate and put the following question to him: "Whom do you like best, your father

TABLE 5. SELECTED HOMOSEXUALS

Patient's No.	Only child	Youngest child	Army classification score	Favors mother	Suitor to mother	Hated father	Favors father	Neutral or unknown	Masculine	Nondecisive	Feminine	
1	X		..					X	X			
2			..	X	X	X			X			
4		X	..	X							X	
5		X	..	X					X			
6		X	..	X	X	X			X			
7		X	..	X	X	X				X		
8			..	X						X		
9	X		..	X	X				X			
10			..					X	X			
11			..					X	X			
12			..	X	X					X		
14			..	X	X				X			
15			..	X	X				X			
16			..					X		X		
18		X	..	X						X		
19		X	..	X						X		
20		X	..	X						X		
21	X		..	X	X					X		
25		X	..	X	X				X			
26		X	..	X	X	X			X			
27			..	X	X						X	
32			..	X						X		
33	X		..					X	X			
35			..	X					X			
36	X		..	X	X				X			
37		X	..	X	X				X			
39			..					X	X			
40			..					X	X			
41	X		..	X	X					X		
42	X		..	X					X			
43			..	X					X			
44			..	X	X	X				X		
45			..					X	X			
46		X	..	X	X					X		
47		X	..	X					X			
48	X		..	X	X	X				X		
49			..	X		X				X		
51			..	X		X			X			
55			..	X					X			
56			..					X	X			
58		X	..	X	X					X		
59		X	..	X						X		
60		X	..	X						X		
Totals	43	8	15	..	34	18	8	0	9	24	17	2
		18%	34%		79%	41%	18%		20%	55%	39%	4%

or your mother?" The case report goes on to say that when the passerby replied emphatically that he preferred his mother, the homosexual felt free to press on with his invitation for sexual contact and successfully carried it through.

Returning now to the tabulation of the secondary sex characteristics in Table 1, it is believed this method of evaluating the degree of maleness, in the absence of biological assay methods, is acceptable for gross determinations of androgen-estrogen imbalance. The results of the tabulation show no appreciable variation between the controls and the overt homosexuals. This is consistent with the findings of Barahal,⁷ who studied 37 homosexuals and concluded "there is little evidence that homosexuality is an organic or endocrinological condition." Wortis,⁸ in his studies, arrived at similar conclusions. In a study of 1,600 histories, Kinsey⁴ comments on the lack of so-called physical stigmata in homosexuals of long standing. He remarks that some of the most persistent practitioners are of the most robust, virile and masculine type. Freud¹ makes the report: "There is no doubt that a great part of the male inverted have retained the psychic character of virility, that they show but little the secondary characters of the other sex." Hamilton⁶ and Wortis⁸ both suggest that the effeminacy of the homosexual is in many instances not native but is acquired through imitation and development of common interests and manners of the love object. These signs of pseudofemininity may be misinterpreted as biological feminacy.

Neither the expressed opinions of the authors cited, nor the findings in this report rule out the possibility of homosexuality being precipitated by a shift in the androgen-estrogen ratio in some cases, but the aggregate of the data indicates the need for more limitation in the conclusions made by the authors who attack the etiology of homosexuality from the endocrinological approach, such as Neustadt and Myerson³ who, in spite of admitting that they encountered contradictions in their results, make the statement that the excess of estrogen "is on the whole characteristic and pathognomonic." And Glass, Denel and Wright⁹ concluded: "In the face of such highly suggestive hormonal differences one may assume that such data point to a definite biological mechanism in homosexuality." And "enough evidence has been introduced thus far

to warrant the use of sex hormone assays in diagnostic studies of homosexuality." These conclusions do not pay proper heed to the contradictory findings which they admit: "It is difficult to reconcile some of the discrepant results in the study, viz: the low ratios among normals and high ratios among homosexuals. Those few normal subjects may be latent homosexuals, whereas the homosexuals with high ratios may not be of the true constitutional type." Concerning this last sentence of rationalization, the maze of gradations in homosexual activity does not justify this handy but arbitrary distinction. Kinsey⁴ covers the illogical nature of such distinctions in his report.

From the amassed data in this report, there is an indication that overt homosexuality occurs in a heterogeneous group of individuals, whose major common bond is poor personality integration and who give evidence that their behavior is precipitated by the accumulated effects of adverse environmental and emotional influences. In this respect, the data show no difference than that which would be expected in a similar study on any problem of social maladaptation. Alcoholism may be taken as an example. Durfee¹⁰ in his study on alcoholism, concludes that "drinking is merely an outward symptom of deeper personality factors." The same statement may be made concerning homosexuality. It is well to recall that alcoholism, too, was once considered a congenital or inherited disease.

CONCLUSIONS

Homosexuality is no disease entity. It is rather a manifestation of poor personality integration and from the etiological standpoint should be considered in a similar category to excessive masturbation and chronic alcoholism. Homosexuality becomes desirable or necessary as an outlet for libidinous drives in certain individuals, largely because of a combination of adverse psychogenic and environmental forces. These forces have multitudinous ramifications and interrelationships which vary in any individual case.

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A CLINICAL EXPERIMENT WITH METHYL GUANIDINE SULFATE

BY SAMUEL FEINSTEIN, M. D.

Madden and Kaplan* have reported on the successful use of methyl guanidine sulfate in the treatment of a number of cases of dementia præcox and cyclothymic depressions. They felt that the results they obtained were comparable to those reported with insulin and the convulsive therapies. If proved satisfactory, this form of treatment would offer several important advantages over insulin therapy and convulsive therapies. It does not produce or depend on unconsciousness, comas, or convulsive seizures. It is administered intravenously, requires little preparation, uses little personnel, and permits the patient to be up and about during the treatment period. This form of therapy is economical and could be readily adapted to the treatment of patients in outpatient clinics, in the physician's office, or at home.

In treating a small series of cases with methyl guanidine sulfate, the author formed the opinion that this form of treatment was less dangerous than insulin therapy or metrazol convulsive therapy, but not so simple to administer nor so comfortable for the patient as electric shock therapy. The following is a description of the method of treatment with methyl guanidine sulfate in St. Lawrence State Hospital and some notes on the reactions observed in the patients so treated.

Methyl guanidine sulfate was prepared by autoclaving in the form of a 25 per cent solution in distilled water. Sufficient solution was prepared at one time to treat the patients for two weeks. The solution was kept in a refrigerator in stoppered bottles each containing enough for one day's supply. Treatment was given five days a week before breakfast, and food was withheld for the next five hours. At first, the patients were kept in bed for observation but later were ambulant after the first 20 or 30 minutes. Pulse rate, temperature, and blood pressure were taken immediately before and after the injection of the chemical and again at frequent intervals until five hours had elapsed. Blood sugar determinations were made on samples drawn before, 30 minutes after, one hour

*Madden, J. J., and Kaplan, L. A.: Experimental and clinical studies with methyl guanidine sulphate. J. N. M. D., 99:285-289, March, 1944.

after, and four hours after injection. Patients were started on an initial dose of 15 mgm. of methyl guanidine sulfate per kilogram of body weight, and then raised to doses of 20 mgm. and 25 mgm. per kilogram of body weight. As far as was possible this increased dose was maintained for the rest of the course. Throughout the treatment, the patients were watched for any objective signs that might be produced; and any spontaneous reports of subjective changes were recorded. Those who made no spontaneous remarks on their feelings were later asked to do so, but care was taken not to suggest any symptoms.

The following clinical responses were observed. The temperature and blood sugar changes were insignificant. The pulse rate was occasionally elevated, but in every case the major tendency was toward a slowing of the rate which, when averaged, showed a drop of 12.5 per cent from the level before injection. Usually, the pulse rate returned to approximately the preinjection level in from 30 minutes to one hour. Blood pressure, with one exception, showed a regular rise of from 7 to 22 mm. of mercury on injection. The one exception is described in case No. 1 in the following. In most cases, the blood pressure returned to preinjection level in about one hour. Urinalysis remained normal throughout the series. All patients except case No. 1 showed an immediate flushing of the face. The flush first appeared about the nose, spread to the face and then to the rest of the body. This was definitely more marked in some patients, where it persisted for about one hour, whereas it faded much earlier in others. In Case 1, there was an extreme pallor on every occasion. Immediate dyspnoea lasting just a few minutes was observed in all cases as soon as two cc. of the solution were injected.

The following were the subjective symptoms reported. All co-operative patients described an apprehensive or panicky feeling beginning with the onset of dyspnoea and lasting for from five to 20 minutes, as well as a feeling of numbness and tingling within five minutes of the time the chemical was injected. This was more persistent and widespread with the larger doses. The symptom was first felt about the lips and nose, then the rest of the face, the upper and lower extremities. When this numbness and tingling disappeared it left in the reverse order. Patients described this

symptom as lasting from seven minutes up to as long as two hours. There were no reported disturbances of the sense of taste. Two patients complained of abdominal cramping when the dose of 25 mgm. per kilogram was reached. This was slight and variable in one case but persisted in the other (Case 3), in which it was accompanied by marked perspiration, weakness, and anxiety. This symptom on some days lasted as long as three and one-half hours. When the amount of the injection was reduced the symptom was proportionately reduced in duration and severity.

In one patient (Case 1), unconsciousness followed injection. This is described in more detail below.

Cases 1 and 2 showed no mental improvement during or within two weeks after the completion of this treatment. Both were subsequently placed on electric shock therapy. Case 1, while still under treatment at present, has already made definite improvement; and Case 2 has demonstrated a change in mood and attitude, although this patient is not yet well. Case 5 is of interest because of short remissions previously obtained with both insulin and electric shock.

CASE NOTES

Case 1 was a single woman of 45 who for years had exhibited a schizoid personality but no psychotic symptoms until five months before treatment. Her diagnosis was dementia praecox, paranoid type, with symptoms of ideas of persecution and reference, auditory hallucinations concerning sexual matters, and inadequate affect. The first treatment with 15 mgm. methyl guanidine sulfate per kilogram of body weight produced an apprehensive state, slowing of the pulse (90 to 68 per minute), drop in blood pressure (140 to 112 systolic); she became pale, complained of weakness, dyspnoea, and a little later of tingling about the face and upper extremities. Before the end of the first hour, all signs and symptoms had disappeared. The second treatment, with 20 mgm. per kilogram, caused dyspnoea as soon as two cc. had been injected. Just as the last of the solution was injected the patient showed extreme pallor, became unconscious, assumed a position of general extension. The neck was arched, the eyes rotated upward, and respiration ceased. The pulse remained of good quality though slowed. The blood pressure was not obtained, as attempts were being made

to revive the patient. Her position was maintained for about 40 seconds; then her head began to turn to the left; and, except for the extreme pallor, the picture was much like that seen between the time the shock is administered and the convulsion occurs in a delayed convulsive reaction in electric shock therapy. The patient's musculature then relaxed, but respiration was not resumed until two minutes had elapsed. By that time, artificial respiration had been started, and calcium gluconate was ready for intravenous injection although it was not given. One minute after the patient began to breathe spontaneously, she was fully conscious and had no clouding of the sensorium. She was aware of the fact that she had lost consciousness but said she had had no unpleasant subjective sensations except a feeling of weakness. The remainder of the treatments were given with a dose a little below the 20 mgm. per kilogram used in the second treatment, as the closer this dose was approached the more severe were her symptoms and the more the reaction tended to be like that in the second treatment. In this series, the writer wished to avoid any unconsciousness or convulsive seizures. This patient was the only one to react with a depression instead of an elevation of blood pressure. As treatment was continued, her mental condition became aggravated. She hallucinated more actively, developed ideas of sexual assaults and threats by the physicians, lost all interest in her surroundings, became more seclusive, would not eat adequately, and at times appeared to be on the verge of a catatonic stupor.

About two weeks after her last treatment, she was started on electric shock therapy. Improvement was noticed after the third convulsive seizure in that she began to participate in ward activities, ate and slept well, assisted in ward and kitchen work, and began to gain in strength and weight. Hallucinations ceased; and while many of her paranoid ideas are retained, she is adjusting well and is not disturbed by them. Her course of treatment is not yet complete, but her rapid reaction is of interest when contrasted with her reaction to methyl guanidine sulfate.

Case 2 was that of a married man of 27. The onset of his psychosis was about two years before treatment. His symptoms were impulsive assaults on members of his family, increasing irritability toward his children, seclusiveness, poor sleep, and depression. His

intelligence quotient (Binet-Simon) was 68, his diagnosis, psychosis with mental deficiency. He was treated because he seemed nearly to fit the description of propf'schizophrenia and had shown no improvement during 10 months of institutional care. His reaction under treatment was the same as will be described in Case 4. No change was observed in his mental condition. Two weeks after the completion of treatment with methyl guanidine sulfate he was placed on electric shock therapy. After the third electric treatment he became cheerful, showed more interest in his environment, and expressed a desire to return home and care for his family. His judgment is still poor, and at times his mood is euphoric. He is still undergoing treatment.

Case 3 was that of a man aged 49 and married. The onset of psychosis was two months before treatment; the symptoms were ideas of poisoning and suicidal attempts; his diagnosis was dementia præcox, paranoid type. In the hospital, he was evasive, denied all of the allegations made about him, and exhibited a rather paranoid trend against his wife. His reactions to injections of methyl guanidine sulfate were also as will be described in Case 4 except that he suffered severe cramping abdominal pains when the dose of the chemical reached 20 mgm. per kilogram of body weight. These increased in severity as the dose was further increased. This symptom from then on varied in intensity with the size of the dose of the chemical. Perspiration was very noticeable and seemed to vary directly with either the dose of methyl guanidine sulfate or the abdominal cramping. With a dose of 25 mgm. per kilogram, the pain and the perspiration lasted for three and one-half hours. This patient seemed to show definite improvement in his hospital adjustment and attitude, but is still evasive and reluctant to discuss his difficulties frankly.

Case 4 was that of a 34-year-old single male. The duration of his illness is unknown but is believed to be at least 10 years. His symptoms were ideas of poisoning and reference, auditory and visual hallucinations, seclusiveness, and refusal to work or associate with the other patients in the hospital. His diagnosis was dementia præcox, paranoid type. This patient reacted to methyl guanidine sulfate with dyspnoea, flushing, slowing of the pulse, and increase in systolic blood pressure. On questioning, he described

tingling of the face and extremities. He appeared to tolerate the treatments with no particular discomfort. He evinced mental improvement which was particularly gratifying because of the length of time he had been ill. He was by no means restored to a normal mental state but began to show interest in his environment and willingness to respond to the efforts of others to engage him in conversation. He took much greater pains with his appearance and dress, and readily took part in the work on the ward.

Case 5 was a single woman of 26. The onset of her illness was 21 months before treatment with methyl guanidine sulfate; her symptoms were catatonic stupor, extreme negativism, wetting and soiling, hallucinations of religious content; her diagnosis was dementia præcox, catatonic type. This patient was selected for treatment because shortly after the onset of mental symptoms she had had a course of electric shock therapy which resulted in a complete remission of short duration. A second course of electric shock therapy and a later course of insulin shock therapy each resulted in another remission of short duration. Since then she had remained unchanged; and it may be added that none of the remissions was long enough to enable the patient to leave the hospital. Her reactions to treatment with methyl guanidine sulfate were the same as those mentioned in *Case 4*. There was at no time in the course of treatment or subsequent to it any appreciable change in her mental state.

Case 6 was a female, aged 40 and married. She had a short paranoid episode three years before treatment and, following this, was apparently well until one month before the present course of treatment was started. Her symptoms were ideas of poisoning, reference, infidelity, and outbursts of assaultiveness. At the time treatment was started she was assaultive toward the physician and employees, and was very uncooperative. Her diagnosis was dementia præcox, paranoid type. Her reaction to treatment was similar to that shown by *Cases 4* and *5*. The improvement noted in this case was the appearance of a friendly attitude, a cessation of assaultive behavior, more interest in dress and ward activities, willingness to cooperate in receiving care, and a desire to help with the work on the ward and in the kitchen. She now carries on satisfactory conversations with her visitors, but is antagonistic toward her hus-

band and retains her previously expressed paranoid ideas. These ideas, however, do not seem to cause her any discomfort as they did before.

Case 7 is that of a man aged 22 and single. The onset of his illness was three years before his treatment. He was admitted to the hospital because he complained of depression. After admission, he showed some depression but no retardation or suicidal ideas. His symptoms were essentially those of attacks of anxiety states and hypochondriasis. His intelligence quotient by Binet-Simon test was 81. The diagnosis was psychoneurosis, anxiety state. His reactions to treatment were the same as those in Cases 4, 5 and 6. At times, he complained of abdominal cramping as did the patient in Case 3, but this symptom was never marked, and it bore no relationship to the amount of methyl guanidine sulfate injected. The impression obtained was that he might have heard of the complaint of the other patient and then developed the symptom by suggestion. There was no apparent change in his condition during or after treatment.

DISCUSSION

In considering these cases, it is seen that some of the patients showed improvement as measured by increased interest in their surroundings, more attention to dress and better cooperation in the hospital environment. None, however, was considered sufficiently improved to make an adjustment outside the hospital. This is to be contrasted with the results of Madden and Kaplan who state, "with our treatment group of 52 patients, 26, or 50%, responded favorably. They were able to leave the hospital, return to their former environments and occupations free from the overt symptoms which brought about their hospitalization. We may consider them as fully recovered at this date. The mental illness of 43 was psychiatrically described as schizophrenia or dementia præcox. Of these 23, or 53%, were considered improved. Four of our patients were classified as cyclothymic depressions and of these 3 were favorably influenced by treatment. Five patients whose symptoms were frankly psychoneurotic failed to evidence any noteworthy improvement."

In summarizing their work, these authors give seven reasons for believing methyl guanidine sulfate to be of definite value in the treatment of functional mental diseases. Four of these reasons are the simplicity of administration, the cheapness of the chemical, the small demand on personnel, and the shortness of the course of treatment as compared with insulin therapy. The present experiment does not afford reason to question any of these; but, electric shock certainly requires less preparation and is easier to administer.

The remaining three reasons given are that treatment with methyl guanidine sulfate is less dangerous and less disagreeable to the patient than other similar therapies, and that the recovery results are comparable to those obtained with the "shock" therapies. The results in the present writer's experiment, however, would not support any claim that the treatments were less disagreeable to the patient than electric shock therapy. The writer found that patients treated with electric shock were on the whole less apprehensive in regard to treatment and entered the treatment room in a more comfortable state of mind and with less fear than those who were receiving methyl guanidine sulfate. The two patients who were started on methyl guanidine and later placed on electric shock treatment also exhibited this difference of attitude toward the therapies. The dangers of the electric shock method have not proved to be very great; and the writer does not feel that on the basis of the few cases treated it is justifiable as yet to say that methyl guanidine sulfate therapy is safer than electric shock therapy. The results achieved in the present experiment were not therapeutically satisfactory and nothing was demonstrated to indicate that methyl guanidine sulfate offers any better prospects than the shock therapies. In view of these results and conclusions, no further trials with methyl guanidine sulfate are planned.

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PULMONARY EDEMA AND ELECTROCARDIOGRAPHIC FINDINGS RESEMBLING CORONARY OCCLUSION IN INSULIN TREATMENT

Report of a Case

BY ALEXANDER GRALNICK, M. D.

The treatment of mental illness with large enough doses of insulin to produce coma is attended by numerous complications. Most of these involve the respiratory, cardiovascular and nervous systems. The greatest number of serious complications involves the lungs and heart. This is a strange result of a treatment which aims at physiological brain changes for the cure of mental disease. As a rule, the complications involving the lungs are pulmonary edema, abscess and pneumonia due to aspiration, and tuberculosis. The heart is affected by various arrhythmias, dilatation, blood-pressure fluctuations, and collapse of the vascular bed. In addition, it shows systematic electrocardiographic changes.

Despite the extensive literature on insulin treatment, comparatively few cases with complications have been reported. The present writer feels that the paucity of reported cases is not a good indication of the danger associated with coma-treatment, and that more of these complications occur than one can gather from the literature. Pulmonary edema is met frequently in the experience of all psychiatrists administering insulin treatment. Gottesfeld states that it occurred in 1.1 per cent of a series of 272 cases he investigated. The onset of acute pulmonary edema may come during, immediately after, or as long as several hours, after, the termination of coma. Cases of acute pulmonary edema have been discussed and reported by McKendree, O'Neill, Beiglboch and Dussik, Nielsen, Furst, Nikolajeves, and Gottesfeld.

The mechanism of the pulmonary edema may be local or central. Farber believes that the vasomotor control of the pulmonary vessels may be disturbed centrally or peripherally, and calls this neuropathic pulmonary edema. It is well known that brain metabolism is depressed during hypoglycemia. The cellular anoxemia, described by Damashek and Myerson, may very well impair the cerebral regulatory centers sufficiently to produce the edema. Heil-

brunn and Liebert declare that the blood adrenalin-level increases rapidly following termination of insulin coma. This may play a part, too, in the production of the edema. Several authors believe that the excessive adrenalin content throws a burden on the left heart sufficient to cause its partial failure, with consequent pulmonary congestion and edema. Bayer, with whom Furst agrees, says that hyperadrenalemia causes diminished volume output and dilatation of the heart, especially the left. Overfilling of the left heart may then lead to acute pulmonary edema. Hadorn and Weil are more or less of the same opinion.

Several means of alleviating pulmonary edema have been suggested. Nielsen uses oxygen-carbon dioxide, atropine, epinephrine, coramine, and digitalis; Beiglbach recommends strophanthin, venesection, and free use of oxygen, and Gottesfeld states he has used adrenal cortex extract with good effect.

The profound physiological changes which occur during insulin coma markedly affect the cardiovascular system. The influence may be through the central nervous system, or locally by depriving the myocardium of its sugar-reserve. Another way such an influence may be felt is, as just stated, by the action of excess adrenalin on the sympathetic nervous system. There are several manifestations of cardiovascular involvement. Farrell, Hadorn, Pessin and Goldman report an increase in the systolic and diastolic blood-pressure, as well as tachycardia. Farrell, suggesting, too, that the cardiovascular changes may be due to the direct effect of sympathetic stimulation, reports a measurable enlargement of the cardiac shadow as shown by X-ray in five of six patients treated with insulin. This is in line with McKendree's report of acute cardiac dilatation occurring in a patient who died in prolonged coma, and Bayer's statement that hyperadrenalemia causes diminished volume output and resultant dilatation. Further, Messinger finds that there is cardioaortic dilatation which is measurable with X-ray, and that there is relatively a greater increase in the basal, as compared with the apical, diameters of the heart. He also states that these changes are reversible, and may, therefore, be considered physiological rather than pathological in significance.

Tachycardia and bradycardia are seen daily in any insulin therapy department, but frequently arrhythmias occur too. Schatner

and O'Neill report a case of auricular fibrillation, and Berger and Goldfarb a case of complete heart-block occurring during treatment. Several writers (Weil, O'Neill, Nikolajevs) mention cases of acute cardiac or cardiovascular collapse.

It is a well-known fact that marked electrocardiographic changes occur in individuals, regardless of age, during insulin treatment. Which of these changes represent a response to alteration in the mechanical conditions faced by the heart, and which represent fundamental physiochemical alterations in the myocardial contraction, however, are unsettled questions. Whether the changes are due to the direct action of the insulin on the heart, or to the hypoglycemic state is also moot. Goldman says "the changes in the electrocardiograph are not merely daily recurring deviations from a constant normal pattern but are progressive and cumulative from day to day, and only slowly recede to the control level after the cessation of treatment."

According to Goldman, the S-T intervals and T waves show marked changes from the normal during hypoglycemia. There is elevation or depression of the S-T interval most frequently in leads II and III. He says, further, that depression and inversion of the T wave in all leads is the most characteristic change observed in practically every patient under insulin treatment. This particular change may take six months to return to normal, especially in leads III and IV. Fragmentation of the QRS also occurs. He thinks the change in the T wave is usually a function of the lowered blood-sugar. While emphasizing that no clinical cardiac changes of significance are produced, Goldman suggests that changes in the chemical dynamics of myocardial contraction are the probable cause of the electrocardiographic changes.

Messinger, and Sonenthal and Low are in essential agreement with Goldman. They declare that diagnostic inferences cannot be drawn from electrocardiographic evidence alone. In their series of 36 cases, followed up to five months after termination of insulin treatment, they detected no evidence of myocardial involvement. Hadorn is also in agreement with Goldman, stating that the lowering of the S-T segment and inversion of the T wave are what one usually sees with cases of myocardial damage and coronary sclerosis. He says, too, that the changes are usually reversible,

but occasionally irreversible. When the changes are permanent, they are those which are also characteristic of myocardial infarct. Hadorn believes that both the insulin itself, and the hypoglycemia produce chemical changes in the heart which are the cause of the electrocardiographic changes.

CASE REPORT

Personal and Family History. H. H. was born in Germany, December 13, 1898. She had no unusual childhood diseases; she was graduated from public school, after which she worked regularly as a shirt-maker; and she was married at the age of 31. No children were born to her. She was always a quiet, seclusive person of moderate habits. The family history was negative for nervous and mental diseases.

Psychosis. About two years before admission to Central Islip State Hospital, H. H. suddenly developed persecutory delusions and experienced auditory hallucinations of a derogatory nature. These were associated with a marked emotional response and unusual behavior to protect herself from her supposed tormentors. Sometimes her symptoms receded for short periods; but finally they became so pronounced and persistent that hospitalization became imperative. She was admitted to Central Islip on June 29, 1942.

At this time, the physical examination was completely negative. Her pulse was 78, regular and of good quality, and her heart sounds were normal. The blood pressure was 128/74. Her lungs and abdomen were negative and the deep reflexes normal. Although she was 43, she gave the appearance of being about 35.

Insulin Treatment. In the hospital, H. H. improved superficially insofar as she cooperated in the regular routine and adjusted to the requirements of a ward for well-behaved patients. Her sensorium was perfectly clear, but she continued to maintain persecutory delusions. On July 31, 1942, insulin treatment was begun with 20 units, injected intramuscularly, at 7 a. m. The usual Sakel technique was followed, and doses were increased by 20 units each day. On the fourth day of treatment, she had 80 units of insulin, and suffered a grand mal seizure at 10:30 a. m. She received 100 cc.

of 30 per cent glucose intravenously and rallied quickly, was ambulatory at the end of the morning, and followed the usual ward routine.

After a two-day rest, the patient underwent her fifth treatment with 60 units of insulin on July 27. She went into a light stage of coma about 10:30 a. m. and progressed to a moderately deep stage at 11:30 a. m., when she was tube-fed 100 gms. of sucrose solution. At this time, she had good lid and corneal reflexes and a positive Babinski, and retained saliva. Her pulse was regular and of good quality. At 11:50 a. m. she was fully conscious; and after she was changed into dry clothing, she began to eat at 12:15 p. m. She was slightly cyanotic about the lips and nail bed, but this frequent finding gave no cause for alarm because she had no complaints and was eating comfortably. About 10 minutes later this cyanosis was more marked and had spread to the rest of the face. In addition, she was a little dyspneic. She immediately received 100 cc. of 30 per cent glucose intravenously. During this procedure, she protested that she felt "all right" and wanted to continue eating. Her pulse was regular and strong. After the glucose injection, however, she began to retch, bringing up a clear fluid which was thought to come from her stomach. Nevertheless, she continued to ask for food, saying that it would make her feel better.

At 12:40 p. m. her condition was unchanged and it was felt that she had sustained some cerebral change which was causing the retching. Therefore, 60 cc. of 30 per cent glucose were given intravenously. However, no change for the better occurred. Instead, the woman's respiratory distress increased and she became more cyanotic. She was fully conscious and had a good but rapid pulse. Auscultation revealed moist rales over both lung fields, and then it could easily be ascertained that the fluid she had brought up had been coming from her lungs. A hundredth grain of aminophylline was administered subcutaneously in an attempt to control the pulmonary edema, and five grains of phenobarbital were given intravenously for sedation.

At 1 p. m., fluid was practically gushing from the patient's mouth and nose when she leaned over the side of the bed. Throughout this time, she was conscious and cooperated, as best she could, with the various procedures that were carried out. She received 80 cc.

of 50 per cent glucose intravenously and one-hundredth grain of aminophylline subcutaneously in a further attempt to control the pulmonary edema. There was little relief; and at 1:25 p. m., she had 100 cc. of 50 per cent glucose intravenously, and oxygen was administered by mask. By this time, her pulse was weaker but by no means thready. It was regular and 120 in rate. She remained markedly cyanotic during this procedure and appeared more than once to be dying. At 1:40 p. m., she received 6 grs. of aminophylline by mouth, and 5 cat units of digalen intramuscularly to forestall possible heart failure. At this time, her veins were normally distended. Her condition grew a little worse, however; and at 1:45 p. m., 2 cc. of aminophylline intravenously and another 100 cc. of 50 per cent glucose were given. The oxygen was continued, and by 3:30 p. m., she seemed to be a little relieved, but still dangerously sick. She was still cyanotic, had a fast, regular, somewhat weaker pulse, and labored respirations of about 60 a minute. At 4:00 p. m., she was placed in an oxygen tent. Her temperature was 103.6; pulse 160 and regular; respirations 48. She was still cyanotic and orthopneic. She began to cough, bringing up a frothy sputum, and complaining of sub-sternal pain. Blood pressure at this time was 120/80. The liver was not palpable, and there was no edema of the extremities. An electrocardiogram was done at 5 p. m. and disclosed a sinus tachycardia with a T-4 inverted. (Figure 1.)*

H. H. was kept in an oxygen tent over night, and the next day her lungs were quite clear, except for some dullness at the right base. Blood pressure was 110/70, and the pulse 90 and of good quality. At this time, the differential diagnosis seemed to be between acute pulmonary edema due to insulin treatment and bronchopneumonia.

However, another electrocardiogram done on this day revealed changes suggesting active myocardial damage. The T-2 and T-3 were inverted and the T-4 upright. A chest plate revealed marked congestion of both lungs, simulating pneumonia. With these new findings, it was thought that the pulmonary edema might be secondary to a coronary occlusion. On July 29, the electrocardiograph showed T-2 and T-3 to be inverted and sea-gull in type, giving a

*Thanks are due to Dr. Harry Gershman of Central Islip State Hospital for taking and reading the electrocardiograms.

picture one sees in a posterior basal infarct. (Figure 2.) The same day, an X-ray of the lungs showed them to be practically clear. On July 31, the T-2 became upright; the white blood count was 12,100, with 73 per cent polymorphonuclear leucocytes, and the sedimentation rate 28 mms. in one hour. By this time, the patient was asymptomatic. On August 7, and September 9, electrocardiograms were normal except for an inverted T-3. (Figure 3.) One month after the onset of the respiratory and cardiac symptoms, H. H. became fully ambulatory.

DISCUSSION

The writer considers this case of interest because of the coincidence of acute pulmonary edema and electrocardiographic findings which resemble the picture of coronary occlusion. Although several cases of pulmonary edema have been reported, none has had a simultaneous electrocardiographic study. As a result, these occurrences have been regarded, purely and simply, as cases of pulmonary edema. The writers have speculated on the mechanism of the edema, suspecting a central or local causation, or cardiac failure. However, coronary occlusion was not necessarily suspected or sought. This has been an understandable oversight.

Electrocardiographic tracings made during routine insulin coma treatment resemble those found in cases of myocardial damage and infarct. The changes found are generally reversible within a few months, but sometimes remain indefinitely. This picture occurs in ambulatory patients who show no clinical signs of cardiac difficulty or pulmonary edema. Naturally, therefore, those who have found the electrocardiographic changes have been loath to consider coronary occlusion and myocardial damage as routine consequences of insulin treatment. They have suspected some physiological change within the myocardium, but have not felt that it was permanent in nature. One has yet to study the long-term effects of insulin treatment on the heart both clinically and electrocardiographically.

If an electrocardiogram had not been done in the instance reported, the patient would have been regarded as suffering from only pulmonary edema. The tracings changed the complexion of the case somewhat. However, because similar electrocardiographic

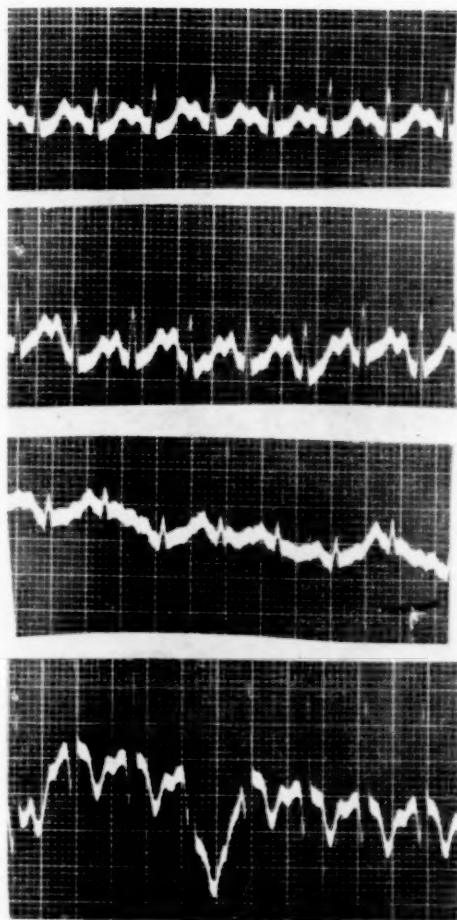


Figure 1

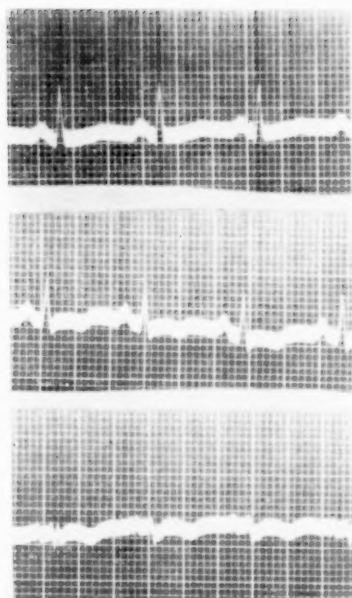
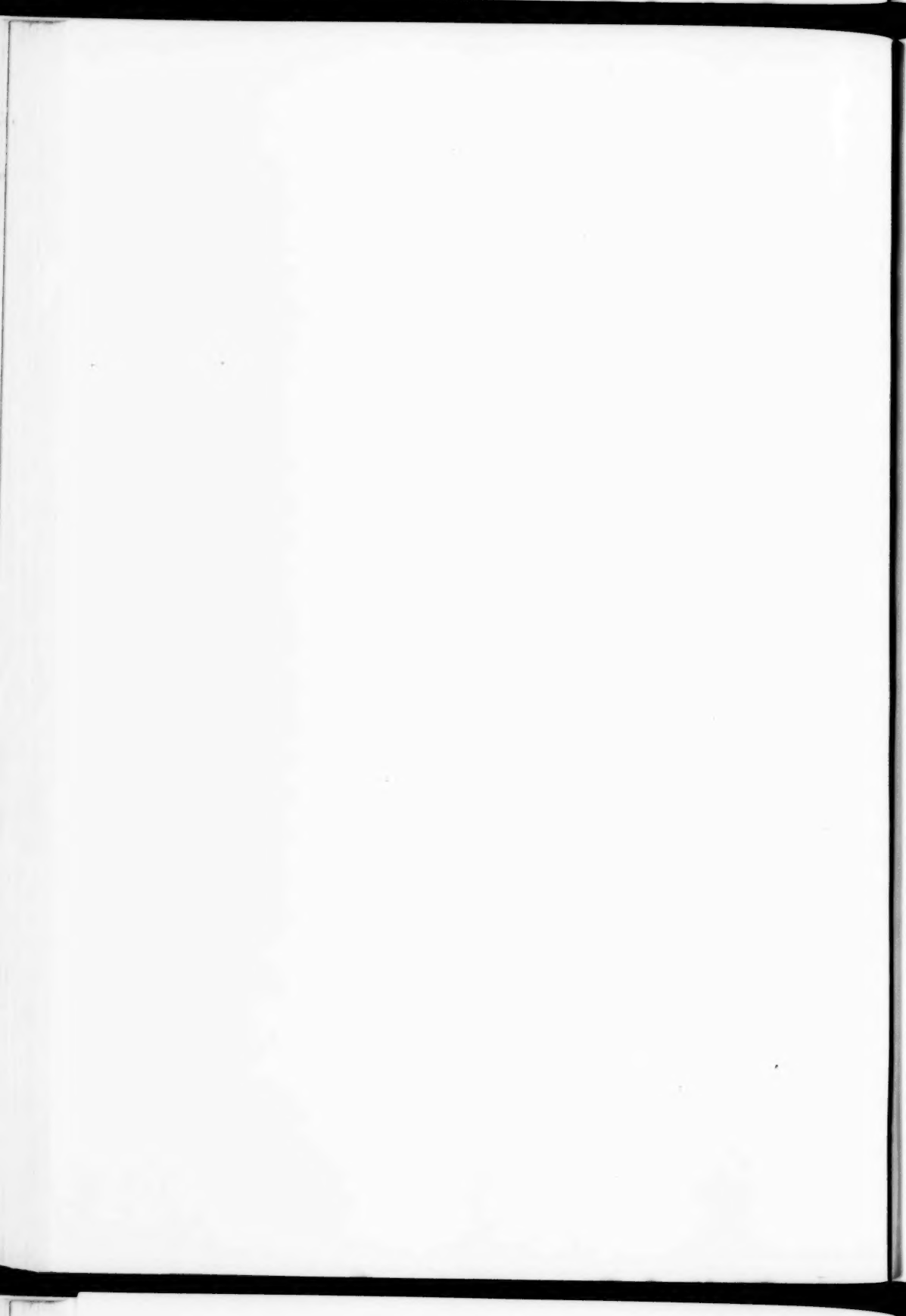


Figure 2

Figure 1. Electrocardiogram taken July 27, 1942. Paroxysmal sinus tachycardia; T-4 inverted. Figure 2. Electrocardiogram taken July 29, 1942. Regular sinus rhythm; T-2 and T-3 are inverted and sengull in type. Changes indicate active myocardial damage, and are those which are found in a posterior basal infaret.



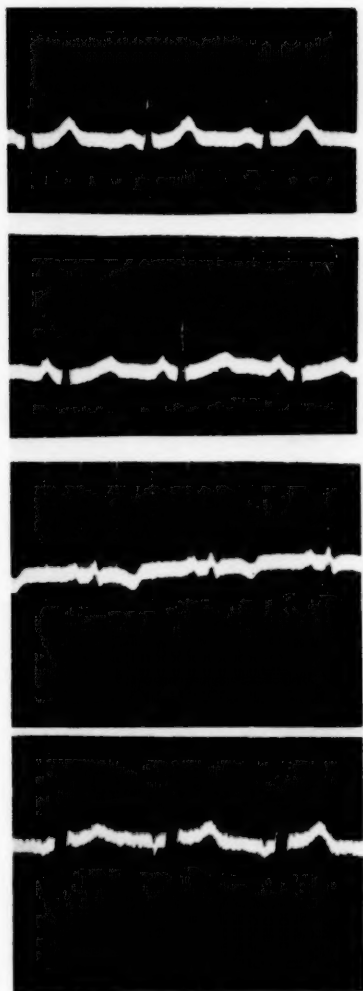


Figure 3. Electrocardiogram taken August 7, 1942. Regular sinus rhythm; T-3 continues inverted, otherwise normal.



changes occur routinely in treatment without clinical cardiac or pulmonary symptoms, one cannot be positive that this patient suffered an occlusion. The latter can only be suspected. Future electrocardiographic studies on similar cases may throw more light on the situation.

The insulin or hypoglycemia may merely be producing myocardial changes which give tracings resembling coronary occlusion without such occlusion having necessarily occurred. Perhaps the insulin hypoglycemia affects the cardiac conduction system, which is composed of muscle and nerve elements, in the same way that it affects the central nervous system. The fact that arrhythmias and heart block have been reported indicates that the cardiac conduction system is affected in some way. The electrocardiogram is only a record of the electrical change passing through this system immediately preceding the cardiac contraction. Best and Taylor say that sympathetic stimulation and the administration of adrenalin may cause inversion of the T wave. In insulin treatment, sympathetic stimulation and hyperadrenalemia are ever-present, so that in this case the principal electrocardiographic changes might be due to them, and not to coronary occlusion.

It is true that this patient showed signs and symptoms associated with coronary occlusion in nontreated patients. However, it must be borne in mind that the insulin treatment necessarily complicates the picture. One cannot too readily draw an analogy between the milder clinical picture and the electrocardiographic findings in nontreated cases of occlusion and those in insulin-treated patients. On the one hand, it may be assumed that one is dealing with persons having an essentially normal physiology—except for coronary disease—whereas, on the other hand, one is dealing with persons undergoing general and profound physiological changes.

The main conclusion which can be drawn from the present findings is that in insulin coma treatment a clinical picture of acute pulmonary edema with electrocardiographic changes suggestive of coronary occlusion may be precipitated. Accordingly, one should be on the lookout for the syndrome. When coronary disease is suspected before insulin treatment, electrocardiograms should be done. Tracings might be done in patients particularly distressed as treatments progress. Should the tracings show too profound changes,

the treatments might either be reduced in severity or discontinued entirely. In equivocal cases, one might treat the patient with mild hypoglycemia, or not at all, depending on the other clinical findings and the clinical judgment of the therapist.

Acute pulmonary edema is a dramatic complication of insulin shock treatment. Its etiology has been suspected to be a disturbance of the cerebral respiratory centers, local respiratory irritation, and failure of the left heart. The edema will often respond quite readily to the intravenous injection of hypertonic glucose. However, when it does not, the therapist is faced with a dangerous emergency situation. When one is aware of the possibility of a coronary occlusion existing in conjunction with the edema, then one is better equipped to treat the patient. In this case, for instance, aminophylline was administered to counteract the edema, and in ignorance of the fact that it was dilating a coronary vessel which was possibly in spasm.

SUMMARY AND CONCLUSIONS

1. A case of acute pulmonary edema occurring during insulin shock treatment is presented.
2. Electrocardiographic tracings resembling those seen in coronary occlusion are shown.
3. In cases of pulmonary edema during insulin treatment, electrocardiographic studies should be made. These may lead to a more adequate understanding of the myocardial and pulmonary changes, and the relation between them during hypoglycemia.
4. Electrocardiographic changes produced during insulin shock treatment may indicate disturbance of the cardiac conduction system rather than disturbance of the myocardium proper or of the coronary vessels. The latter two are suspected but not definitely proved to be involved.
5. The presence of mild myocardial disease need not necessarily preclude treatment, but should dictate extreme caution.

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THE PREVENTION OF MAJOR AND MINOR COMPLICATIONS IN METRAZOL THERAPY; MODIFICATIONS OF TECHNIQUE

BY HENRY H. HAINES, M. D.

So much has already been written about the technique of administering metrazol therapy that one hesitates to add to the literature on the subject. However, the recent addition of paralyzing drugs (curare,¹ beta-erythroidin hydrochloride²) to this treatment, to lighten the convulsion and prevent traumatic complications, indicates that our methods have not been perfected. While this protective measure has had extensive trial and seems relatively safe, it should not be forgotten that deaths following its use have been reported. Its respiratory depression is readily alleviated by prostigmin and artificial respiration; however, the possible complications of curare are more grave than most of those it attempts to modify. Thus it seems fitting that we should endeavor to improve our technique to the point where curare may be employed principally in cases which present a strong possibility of skeletal injury³ (cases with skeletal anomalies, arthritis or marked kyphosis; the aged; those who have suffered previous injury, etc.). Time, expense, and the additional supervision required by curarization are considerations not to be dismissed, if the patient can be protected by simpler measures. These latter are important in institutions which treat a large number of cases, or in which the operator visits several wards or buildings, treating a number of cases in each. The purpose of this paper is to describe certain refinements in technique; but the writer wishes to point out, in passing, that a number of workers have already been able to reduce their complication rate to a truly negligible minimum (without the use of curare⁴).

Most studies on convulsive therapy mention a few major complications, such as fractures of the vertebrae, humerus, or femur^{5, 6, 7}. These occurred with such frequency in some series that for a time it was feared that the treatment might be abandoned. A certain number of fractures seemed inevitable under the best of conditions, but improvement in methods of restraint has reduced them to a fraction of their former incidence. A standardized technique is still lacking, however.

A few clinicians, whose work has not received sufficient attention, have reported results in which careful attention to the various factors in restraint has eliminated most of the commoner complications.^{4, 8, 9} Dislocation of the jaw, for example, seems to be due entirely to ineptitude or negligence. Dislocation of the humerus can be avoided by proper care. It is likely that injuries to the femur can be reduced or avoided by more intelligent restraint, avoiding the counter-force which probably contributes to the fractures.

Many ingenious methods of hyperextending the spine have been devised, to avoid the compression injuries which make up the major part of our present complication rate. Rolled blankets, tapered pillows, sandbags, and the knee support of a Gatch bed are among the methods used. The writer has even seen a table with a convex top, especially designed for this purpose. One of the subjects of this paper, however, is the description of a simpler device, which has proven more satisfactory than some of the older and more elaborate apparatus.

In addition to this, modifications in technique to avoid missed convulsions and sclerosed veins will be described.

INJURIES

The preventive methods of Rankin and others have been found adequate to prevent injuries to the long bones. Little restraint is used on the legs, and the arms are folded across the chest during the convulsion. In 110 metrazol cases treated by the writer, in which these factors were controlled by personal observation, no fractures or dislocations of the long bones occurred. In all the previous cases treated in this institution (about 80) by others, the only injury was a fractured clavicle and dislocated humerus, occurring at the same time in one patient. (In 200 cases receiving electric shock therapy, the arms were restrained in extension close to the body. No fractures or dislocations of the long bones were seen in this group either, although an unsuspected case of Otto pelvis suffered an injury to the acetabula.¹⁰) Other workers have reported series in which injuries to the long bones did not occur. The importance of such complications must not be minimized, but it should be pointed out that they can be avoided by strict attention to the dynamics involved.

In the first 80 cases treated by the writer, four vertebral injuries were seen. These have occurred so regularly, though infrequently, that most workers have come to expect them, and it has been remarked that a minor fracture of this type, with no sequelae, is a small price to pay for recovery. (The interruption of treatment is of course undesirable.)

Only one of these vertebral injuries was a fracture readily demonstrable by X-ray. One showed narrowing of the anterior edge of the body, with evidence of crushing. Two showed no bony pathology, but were probably due to injury to the intervertebral disc with invasion of the spongiosa of the body. These are hard to demonstrate by X-ray, until calcification makes it possible to visualize a Schmörl's node at the site.¹¹ The symptomatology of all these injuries was similar; a localized painful lesion which disappeared in a few weeks. They occurred even when the back was firmly restrained by hyperextension over a pillow or blanket roll, on a mattress supported by a full-length fracture board. This latter, besides being not completely efficacious as a protective measure, was cumbersome to change from one bed to another in combined insulin-metrazol therapy. A portable and readily removable back support was devised which eliminated moving the patient before and after treatment.

A 12-inch plank about 30 inches in length (or approximately the width of the beds used) is provided with a transverse cleat about two inches from one end. This board, with the cleat side down, is slipped beneath the bedspring in the mid-dorsal region, so that it rests on the longitudinal rods of the bed frame. The cleat abuts on one side of the frame and prevents slipping of the board, as well as assisting the operator to align it rapidly. The sag of the spring above and below the board promotes a natural hyperextension of the spine; the board provides a firm support for the usual pillow or rolled blanket. If the bed is constructed so that the spring does not rest directly on the board, the space can be filled by a small firm pad or pillow between the board and spring. Assistants press firmly downward on the hips and shoulders during the convulsion. Team work is essential. The physician arranges the board and pillow for each patient, and his part in the procedure makes him the one best suited to restrain the arms. It seems almost un-

necessary to remark that each assistant should understand his job and the necessity for his part in the treatment, but untrained, casual or overzealous helpers have probably been responsible for more than one major complication.

The principle of this device is not new, but the apparatus is simplified, portable, easily placed and removed without disturbing the patient, and it is so cheaply constructed that extra boards can be made for wards where metrazol is regularly given.

No back injuries (or other traumatic complications) have occurred since this appliance has been used in metrazol and combined insulin-metrazol therapy.

MISSED CONVULSIONS

When a dose of metrazol fails to produce a convulsion, the usual effect is the production of extreme agitation and anxiety. Some cases are individually refractory, requiring progressive increase of the dose. It has been stated that the agitation caused by these failures is so disturbing that the outcome of the course of treatment is sometimes materially impaired. In any case, the failures are undesirable, and very unpleasant experiences for the patient. In an effort to avoid such occurrences, some clinics use a fairly large initial dose and increase it slightly with each treatment. First doses of from 5 to 10 cc. of 10 per cent metrazol have been recommended. Unusually large doses can be obviated, however, by observing a few simple precautions or using certain modifications in technique.

It is perhaps unnecessary to state that rapid injection is essential to achieve a convulsive response. This requires a large needle, at least 19-gauge, and a syringe with a relatively small bore, such as a 10 cc. size. The hydrostatic difference between needle and barrel diameter in larger syringes results in a slower rate of injection. This can be demonstrated by stopwatch tests.

Pressure on the shoulders should be avoided for a few seconds after the injection, until the metrazol has left the arm. The choice of veins in a lateral site may result in the metrazol being routed via the cephalic vein, which passes superficially between the deltoid and pectoralis muscles. Pressure on this area may retard the flow of blood and metrazol sufficiently to impair its effect. Pres-

sure on the clavicles may do the same in the case of the subclavian vein. Stroking the arm in the region of the injection will empty the veins by a "milking" process and possibly expedite the entrance of the metrazol into the general circulation.

The jugular veins are larger, and offer a shorter and more direct route to the right auricle. These may be injected with safety, and prove especially useful when a disturbed patient requires camisole restraint.

The special modification used by the writer to avoid missed convulsions in cases prone to this complication is the so-called "split dose." An extra cubic centimeter is added to the approximate dose, the needle is inserted, and 1 cc. is injected. The flow is then interrupted, and the needle is allowed to remain in the vein. When the physiological effect of the first cubic centimeter is noted by minor physical signs or subjective report, the remainder of the dose is injected in the usual rapid manner. This preliminary "sensitization" seems to make the nervous system more irritable and responsive to the second portion of the dose.

In the short period between the injection of the two portions, no noticeable clotting occurs in the syringe, and there is no apparent danger of embolic phenomena. In spite of warnings to the contrary, and the recommended use of sodium citrate as an anticoagulant, pulmonary infarction and abscess have never occurred in this institution during several years of the use of unmodified metrazol. For complete safety, however, the use of sodium citrate in this particular modification seems a reasonable addition. (When a number of cases of pulmonary abscess occurred during metrazol therapy in a large eastern hospital, clotting of blood in the syringe was blamed for this. Subsequent work was done in which half the cases received metrazol with 2.5 per cent sodium citrate, and half received unmodified metrazol. No pulmonary abscesses occurred in either group, but the use of the sodium citrate was continued as a routine measure.¹²)

The "split dose" procedure has kept a number of refractory cases convulsing regularly on doses of 10 cc. or less. The method was found particularly applicable in a patient of this type whose vessels had been fibrosed by years of antiluetic treatment so that only one usable vein remained.

CHANGES IN VEINS

The pathological changes which often occur in veins after the injection of a foreign substance are well known. Sometimes the sclerosing effect is as complete as if this had been the operator's intention. Why this should occur more frequently in certain individuals or in certain series cannot be explained. Metrazol in 10 per cent solution does not cause much local irritation. Trauma is a factor difficult to evaluate, for even with clean, well-sharpened needles the intima may be injured. Roughness, carelessness and infections do occur, and are usually followed by a high percentage of fibrosed veins. Leakage of solution or blood into the surrounding tissue is an important contributory factor. Leakage from the vein after injection should be avoided with the same care as extravasation before. Since the patient is unconscious after treatment, and often restless, a special procedure is recommended to effect this.

When the needle is withdrawn, the operator maintains firm pressure on the puncture site until the convulsion is over. A wad of cotton is then placed on the puncture and held in place by a wide elastic band. This may be a strip of old inner tube, rubber bandage or similar material, wrapped once around the arm and secured with a single knot. This is left in place for a few minutes until the puncture in the vein has sealed itself. Personal after-care is eliminated. The complete prevention of leakage seems to do away with the local reaction so commonly seen. The veins remain patent, there is no ecchymotic discoloration, and thrombosis or occlusion is rarely seen. The same vein can often be used repeatedly and indefinitely, without discernible damage.

SUMMARY

1. The problem of traumatic complications in metrazol therapy is discussed, and the more effective methods of prevention are reviewed. It is suggested that improvements in the latter, with closer attention to certain maneuvers already well known, can reduce the incidence of complications to the point where routine curarization of all cases is unnecessary.

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SUMMARY

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2. A simple, cheaply constructed, easily improvised and portable back support, which has been used repeatedly without vertebral complications, is described.
3. A split-dose method of injection, to avoid missed convulsions in refractory cases, is described.
4. A procedure for avoiding sclerosis of veins, following injection of metrazol, is described.

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A NOTE ON THE TREATMENT OF AGGRESSION IN EMOTIONALLY DISTURBED CHILDREN

BY LEWIS R. WOLBERG, M. D.

The treatment of aggression is one of the most difficult problems in child psychiatry. Methods of handling range from extreme permissiveness—even to the extent of allowing physical attacks on the therapist—to rigid disciplinary measures and physical restraint. This communication is a contribution to the problem of therapy and is based on the observation of cases of aggression in children in mental hygiene clinics and on the children's ward of Kings Park State Hospital.

Aggression is representative of many diverse conditions. It may be a reaction to frustration of a fundamental need or impulse. It may be a means of coping with overwhelming inner fears stirred up by terror of a menacing world. In the detached child, it may signify an averting of close relationships with people; in the child with power strivings, a way of gaining control; and in the masochistic youngster, a technique of provoking others to a point where they retaliate in kind. In some children, it is the only form of relationship to another human being that they know, and is a frenzied appeal for companionship or help. Aggression may be a camouflage for a deep feeling of inner helplessness, and as such is motivated by the conviction that the only way to escape hurt is to overwhelm others. It may be a manifestation in the compulsively dependent child of disappointment in the adult to whom he clings, on the basis that his whims are not being satisfactorily gratified, or because more favors are being shown to others than to himself. Before adequate therapy can be instituted, it is essential to know the symbolic significance of aggression to the child, and the situations under which it is most likely to appear.

A number of children who exhibit behavior problems in the form of direct or subversive aggression never seem to have developed an inner system of moral restraint or the ability to tolerate an average amount of frustration. Neglected children, those reared in slum areas without proper guidance or discipline, those brought up by parents who themselves fear aggression and are conse-

quently unable to take a stand with the child, frequently develop a defective repressive mechanism which is incapable of inhibiting rage or of directing it into socially approved channels. The child here usually has no fear of, or respect for, authority. He is narcissistically oriented and uses aggression as a coercive tool to force others to yield to his will. There is little contrition or guilt associated with his destructive acts, and the child usually takes the attitude that persons or objects on which he vents his rage are worthy of its consequences. Retaliatory measures have little deterrent influence and actually may incite the child to further bouts of aggression.

In treating a child showing this form of aggression, a permissive environment is worse than useless. This is because a sympathetic tolerance of the child's rage plays into the child's contemptuous attitudes toward authority as deserving little or no consideration. Actually, the child himself sees no necessity for change, and a permissive atmosphere merely perpetuates his aggressive strivings.

The treatment-objective in this type of child is to build up a super-ego capable of exercising control of his inner impulses. Much as the growing infant develops a conscience from external restraints and prohibitions, so the child with a diminutive super-ego needs discipline to nourish this impoverished portion of his personality. A kindly but firm expression of disapproval and even irritation in response to destructive behavior is a much more rational approach than its sanction or tolerance. The child must be taught that there are limits to his conduct beyond which he cannot go, that he has responsibilities for his daily acts which he must face, that definite things are expected of him and that he has to live up to these expectations. When, in the therapeutic setting, limits to the child's conduct are first established, the child is apt to react violently; but as firm discipline continues, he will himself discover that he is much more comfortable knowing that there are boundaries beyond which he cannot go. This is not to say that he yields himself readily to such a circumscription of his freedom. The usual reaction is to engage in a prolonged struggle with the therapist to break down the limits imposed on behavior.

A technique that the writer has found useful in helping the child develop an inner system of restraint is to let him prescribe his own

disciplinary treatment. He is confronted with the question of what he would do if he were the doctor and the doctor were himself. Rarely will he prescribe forgiveness for his infractions except in the earliest stages of treatment. Sometimes he will demand an unjustifiably harsh form of punishment which must, of course, be disregarded. The most common reaction is to impose on himself deprivation of privileges. This method of treating aggression has an important effect on the ability of the child to handle his own destructive impulses, for to set his own limitations on aggression and to pay for its consequences aids him in understanding that he has definite responsibilities for his own acts.

One might understandably speculate that disciplinary pressures of this kind will have no real therapeutic effect on the child. His entire history seems to bear out the fact that he has previously not responded to any kind of authoritative demand. To an extent, these fears are justified, but the therapeutic situation differs from any previous environment because the child soon begins to feel in it a warmth and expectation such as he has never before experienced. Indeed, while in the realistic world his impulses have brought him a measure of security, they have also isolated him from people. He gradually begins to understand that the therapist is one adult who is not threatened by his aggression, does not yield to it or withdraw his love even in the face of the most provoking tantrum.

As the child continues his therapy, his affection for the therapist gradually increases. Eventually, he seems to go through a stage in his development similar to that of the normal evolution of the super-ego—namely, he feels it essential to win the therapist's approval and love. Whereas punishment and threats of abandonment have had little influence on the child's aggression, the fear of losing the approval of the one adult who has become significant to him has an extremely potent effect on ability to inhibit rage. Needless to say, the process in which the child reintegrates himself with authority, in which he identifies himself with a loving adult and seeks to win his love and approval, is a long and tedious one. But the conscience, even in the normal child, never develops precipitously; rather it extends over a period of years. One must not get too discouraged if the youthful patient has temporary setbacks in his relationships with authority.

There is another type of aggression in the form of a power striving which resembles the aggression in the child with an undeveloped super-ego, but which has an entirely different dynamic significance, and calls for a radically different kind of treatment. The super-ego, instead of being diminutive, is hypertrophied and takes on a terrifying and punitive aspect. The image of authority is that of a fearful and destructive force which can overpower and mutilate the child if he yields to its control. The way the child copes with his helplessness is by overwhelming others with his power-drive and aggression.

The object in therapy here is not so much to reinforce and solidify the super-ego, but rather to undermine it and replace it with one that does not threaten the child for the exercise of his impulses or functions. It is consequently necessary to tolerate aggression as much as is possible within reasonable limits of safety and decorum. Unlike the case of the first type of aggression, a permissive environment is essential. The permissive atmosphere at first often incites power-driven children to exaggerated acts of aggression. These seem to be defensive techniques on the part of the child to avoid yielding his vigilance against authority.

Power-driven children often have difficulty in expressing softness, love or tenderness. These emotions conflict with their self-ideals, and this is especially the case in children reared in environments where toughness and strength are the only admirable qualities in life. During therapy in a permissive situation, such children gradually begin to let down their guards. One sees them working cautiously with creative materials, and there often emerges from their depths a great deal of esthetic feeling which has been buried previously under a crust of hardness. The amount of anxiety that accompanies the expression of tender emotions is amazing. As the child's attitude toward authority gradually undergoes a change, he usually finds it more permissible to enjoy his softer impulses. In a hospital ward, for example, many children who have been egocentric and destructive may be seen, after a while, making active attempts to help the crippled and defenseless children in dressing, in their habit training and in other routines.

Another form of aggression frequently encountered is that in the dependent child who clings to the therapist or to other children

in a submissive and ingratiating way. The aggression is stimulated by a feeling in the child that he has not received a sufficient amount of attention or love. The demands of dependent children are often so inordinate that it is impossible to live up to their expectations. There is involved an element of magical wish-fulfillment, and rage occurs when wishes are not automatically granted. There is another important reason for aggression in the dependent child, and this emerges from a conviction in the child that independence is being crushed by the person upon whom he leans. So long as dependency remains the keynote of living, assertiveness, activity and creative self-fulfillment are constantly subdued. Great hostility may be underneath the outer core of submissiveness and ingratiation, and the child may regard the adults who care for him as overpowering beings who prevent him from attaining to self-sufficiency. This is one reason why aggression is precipitated without any apparent cause in the child who receives unlimited privileges and favors. It is essential for personnel who deal with children to understand this, for the eagerness of the adult to overprotect the dependent child may actually rob the child of the necessity of participating actively in his own growth.

The dependent child may burn up his energy cajoling or forcing others to carry him, for he feels too helpless to accomplish things through his own efforts. A program must therefore be instituted in which the child learns to accept responsibility for daily routines of living. Self-growth is attained primarily through achievement. It is understandable that the child will exhibit episodes of aggression when he senses that others insist that he stand on his own feet. It is important not to yield to the child's aggression when it is obvious that he is trying to force the therapist to carry him.

Finally, it is necessary to consider the aggression exhibited by shy and detached children. Such children constitute a most serious problem and are usually referred to a clinic or to a hospital because of neurotic difficulties, psychosomatic complaints or psychoses. Aggression, here, is at first not expressed, and the outward behavior of the child is usually of a compliant and innocuous nature. The detached child is threatened constantly by life and by

people. He maintains his safety either by submitting to others or by building a defensive chasm that separates him from the world. In individual play therapy, he will sit quietly awaiting instructions with little show of spontaneity. In a group of other children, he will isolate himself and play alone. He possesses an enlarged and punishing super-ego as well as a great undermining of self-esteem. Beneath the shell of compliance, are great quantities of hostility which he fears expressing openly. The object in treatment is to get him to mingle intimately with other children, to engage in competitive activities freely and to express his aggression without counteraggression on the part of surrounding adults. This necessitates an extremely permissive environment.

Detached children are driven by spontaneous force to assert themselves with other children and with adults, but their efforts in a normal environment are usually frustrated. In the permissive environment of the clinic or hospital, the child gradually experiments in self-expressiveness. In play therapy, he may reach a point where he breaks through his reserve and begins working with pliable materials that he can manipulate or destroy. Later on, he may begin to penetrate from the periphery of the group to its center, participating in activities that bring him into contact with others.

As the child realizes that he will not be hurt in closer relationships with others, he may engage gradually in mild competitive activities. Later, he may actually take a stand in life, defending his own rights and demands. At this point, a tremendous amount of aggression is released and he may become very destructive or assaultive. The aggression frequently is in the nature of a test to provoke adults around him into acts of retaliation in order to prove to himself that his previous concepts of the world as menacing were justified. Furthermore, as the permissive environment begins eating away at his repressive image of authority, he may begin experiencing feelings of love toward the therapist. He may become so overwhelmed with terror out of fear of getting close to a person that he may direct his aggression at the therapist with little external provocation. A tolerance of the child's aggression, therefore, as much as is possible, is therapeutically indicated.

The forms of aggression discussed here, while common, are by no means the only ones seen in emotionally sick children. The most important thing in therapy is to try to understand the meaning of aggression as a symptom of a more widespread personality disorder. Therapeutic techniques are rational only in so far as they take into consideration the dynamic function that aggression serves in the psychic economy.

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POSITIVE TRANSFERENCE IN SCHIZOPHRENIA

A Case Report

BY DOMINICK A. BARBARA, M. D.

The bases for Freud's first formulation of the transference phenomenon were made during his classical observation on the patient Dora. He described transference phenomena as follows:

"They are the new editions or facsimiles of the tendencies and phantasies which are aroused and made conscious during the progress of analysis; but they have this peculiarity, which is characteristic for their species, that they replace an earlier person by the person of the physician. To put it another way: A whole series of psychological experiences are revived, not as belonging to the past, but as applying to the person of the physician at the present moment."

Freud believed that in transference we have an emotional discharge of those libidinal impulses which have been repressed into the unconsciousness, and withheld from the conscious personality. Positive transference, according to Freud, was considered ultimately sexual in origin. It represented nothing more than a revival of instinctual infantile drives which were repressed in some form or another and brought to reality through suggestion and repetition.

Horney disagrees with Freud in holding that the patient to physician attachment is not one merely of repetition of past feelings or experiences, but one that comes about through establishing a human relationship. "Neuroses," she holds, "are ultimately the expressions of the disturbances in human relationships; the analytical relationship is one special form of human relationship and existing disturbances are bound to appear here as they appear elsewhere; the particular conditions under which an analysis is conducted render it possible to study these disturbances here more accurately than elsewhere and to convince the patient of their existence and of the rôle they play."

Recent literature in this field tends to be placed strictly on the interpersonal relationship. Janet MacKenzie Rioch explains the transference phenomenon as follows:

"The therapeutic aim in this process is not to uncover childhood memories which will then lend themselves to analytic interpretations. Here, I think, is an important difference to Freud's view. Psycho-analytic cure is not the amassing of data, either from childhood, or from the study of the present situation, nor does cure result from a repetition of the original injurious experience in the analytical relationship. What is curative in the process is that in tending to reconstruct with the analyst that atmosphere which obtained in childhood, the patient actually achieves something new. He discovers that part of himself which had to be repressed at the time of the original experience. He can only do this in an interpersonal relationship with the analyst, which is suitable to such a rediscovery."

CASE REPORT

S. D. was born in Emporia, Kan., on October 12, 1882. The family on both sides was British, middle class, with no history of mental or organic disease. He was the second oldest of five siblings, the remaining four being girls. The mother was described as domineering, stubborn, and severe with her children. The father was gentle, understanding and agreeable but had little time to spend with the boy. The father was pictured as the dependent element in the family, and the one to whom the patient held with great support. The family environment was one of continued friction and quarrels, which centered mostly about economic stress. During these discussions, the mother would often refer to the patient "as being a dreamer and a good-for-nothing like his father."

Nothing is known concerning the patient's gestation, birth or infancy, although he was considered to have been a "nervous and sickly individual." In his early childhood, he was seclusive and shy and did not like to play with other children. His only friends at that time are described by the patient as being "the birds, the squirrels and the trees." He attended school from the ages of six to 12 but was compelled to leave because of his "day dreaming," and inability to concentrate. He rationalizes his failure to succeed at school in the following manner: "I was expelled from school because I could not sing. The singing master, like my parents, was a Welshman and held the theory that since my father

could sing, then I should be able to sing. When I went to the superintendent of the school, however, he was very nice to me because he couldn't sing either."

When the boy was 15, his father died, and the patient decided to leave home and move to a larger city where he could earn money enough to support his mother and sisters. At first, he began to help his uncle, who owned a bakery in Butte, Mont., by driving the delivery wagon. This lasted but a few months because his uncle "would continually pick on him and refer to him as being as lazy as his father." He now decided to go east and worked wherever he could find a suitable place.

His mother, in the meantime, had moved to Indiana where she rented a large house and took in boarders. She became rather successful at this and saved enough money to travel with her oldest daughter to Capetown, Africa. Three months later she sent for the son to join her, "since he was getting nowhere, and would never succeed to be anyone."

While in Capetown, S. D. became strongly attached to one of the local dentists and became highly interested in the profession. The patient describes this individual as follows: "He reminded me of my father because he was so kind and generous to his patients. Like myself, he was also interested in the beautiful things of nature, over which we had long hours of discussion."

The mother became very successful in business while in Capetown and because of the boy's continued pleading and upon the advice of this dentist, agreed to send her son to Harvard to study dentistry; although before he departed for America, she had no faith whatsoever in the outcome of her son's professional career.

The patient was successful at Harvard and after three years obtained his dental degree, and returned to Captown to establish a practice. He barely made expenses at first, until he married in 1911, and then suddenly had a flourishing success for the next 15 years. This success continued until 1926, when his practice suddenly began to fail. He worried at length about this, and through the advice of his wife, he decided to return to this country.

He experienced much difficulty in obtaining his license in New York State, and after many reversals, relative to his own field, he became practically penniless, and as a result developed ideas of

persecution against his fellow-dentists and against women with whom he came in contact. He developed similar ideas against his fraternity brothers, and associated with this, he became extremely religious and "gave himself up entirely to God." He showed no normal interest in his environment and began accusing his wife for his defeats.

PSYCHOSIS

S. D. was committed to Central Islip State Hospital on March 20, 1931, with a history of being worried, depressed and delusional. When questioned, he spoke in a monotone and expressed persecutory ideas and religious trends to the effect that he had a duty to perform in this world. Following all these persecutions, he abruptly turned to religion, gave up his practice and decided to devote his entire life to God. At no time during his stay, were auditory hallucinations elicited. Memories, and orientation were good. Schooling tests were done with accuracy.

Prepsychotic Personality

S. D. was described as having been unstable, worried, and depressed at times; unable to cope with serious problems, seclusive, withdrawn, argumentative, suspicious and moody. During the patient's entire stay in the hospital, he had to be tube-fed until shortly before his parole in 1943.

*Review of the Case**

The writer, after many hours of analytical study which began in February, 1942, with the patient, was successful in obtaining a positive transference. At first, many lines of resistance had to be broken before even the slightest patient-to-physician contact could be established. This negativism on the part of the patient was merely a reaction to emotional conflicts which were a mechanism of escape from intolerable situations. This is clearly illustrated in the patient's refusal to eat for a period of 12 years, during which time he had to be tube-fed.

After a period of seven months mental contact was finally established and it was interesting to root out the following discoveries with their possible explanations:

*From a Horney analytical approach.

The patient's early infancy, environment and parent-relationship were characterized by economic stress and lack of warmth and affection. One finds at this time a loss of human relationship and love, at a period when the child was most dependent upon these supports. An emotional stirring was thus set up during early infancy, which was difficult for the boy to understand or accept. As time elapsed, this situation became more and more critical, until finally it became confusing and hopeless. It is at such a phase that an individual may withdraw from reality and live in a world of fantasy; or a basis for anxiety may set in, with the formation of neurotic trends toward the loss of security and happiness.

The second phase of the present patient's life tended toward the creation of false personality goals as a means of compensation. His hostility and dislikes for his mother on one side, and the need for affection and warmth from his father on the other, brought about emotional conflict and a basis for anxiety. It was necessary at this time for him to search for new ways to cope with life in a safer manner. An individual may at this stage develop a "compulsive modesty" as to his wishes and demands. He becomes less critical, thinks less of himself than of others and assumes a secondary rôle. A form of rationalization is thus created to compensate for his underlying repressed hostilities, and his need for love and affection. In S. D.'s case, the writer will attempt to explain this in the patient's own words: "At first I thought I was being ignored by my parents and especially by my mother. I thought she liked the girls more than she did me. As I grew older and began to go to school, I slowly realized what my people were sacrificing to put me through school. Many times I decided to give it all up and go to work, but father would consult me and tell me how much better off I would be in the future. He was always the one that I could depend on when I needed advice and help."

As the patient grew older, this false sense of security could no longer be accepted. He began to feel uneasy in this restricted sphere and began to search for a more durable form of dependency. Horney describes this neurotic trend as being the need for a "partner who will take over one's life, and assume all responsibilities."

At this stage, one finds that the patient's wife begins to assume this rôle. She was someone he could depend upon for advice, stim-

ulation, gratitude and responsibility. He needed all this because he did not have the ability to cope with his problems alone. "My wife was faithful to me and kept by me at all times. It is really through her that I developed my practice in Johannesburg. We kept to ourselves and had few friends. I was the dentist in the family, while she took care of the financial problems like my mother used to do." Here, one sees the patient is willing to assume a secondary rôle toward the wife as he had toward the mother; and in return for this, the wife's undivided devotion to him would restore his self-esteem.

The last stage in development of this case deals with the rejection of the "partner" and the emergence of a new neurotic trend, "the need for power and prestige," which finally leads to a psychotic level.

The dependent rôle of the patient was acceptable until a time when his practice in dentistry began to fail. Then a new atmosphere of doubt and emotional stirring began to develop. These subconscious conflicts finally became of such an unbearable strength that the patient assumed once again a critical outlook. He began to question himself as to whether this individual, his wife, could satisfy any longer those needs of security and assurance which he needed so much.

Why was his practice, which was once successful, slowly disappearing? The situation now became too difficult to cope with; and the only plausible explanation he could offer at this time, was that his wife was to blame. After all, wasn't she the center upon which all his responsibilities were to be directed? This may be clearly illustrated as follows: "I received a terrible shock when my wife confessed to me that there had been some colored blood in her family. Here I thought it was just her olive complexion. Why did she have to tell me this after all these years?" Whether the patient's wife really had colored blood was not ascertained. His assertion undoubtedly was merely a form of rationalization to compensate for his failure by placing the entire blame on his wife, who after all was supposed to play the rôle of the responsible individual and be perfect.

The patient's sense of security and reality became distorted and a new search was made to compensate for his repressed anxieties.

He could no longer accept his wife as a means of dependency; and a third and new neurotic trend was now being created—"the stress for power and prestige." A sudden decision was made to give up his practice and return to America after an absence of 15 years. This return was met with many difficulties and reversals relative to his professional field. His refusal to accept his wife as a "partner" any longer, plus the new emotional conflicts which were steadily being formed after his return to society, became impossible to cope with. All powers of concentration and accepted bases of judgment and reasoning were destroyed. The emotional stirrings which at one time could be compensated for in some form or another now become hopeless. It was at this moment that the patient could no longer accept society, became desperate and projected his frustrations on his fellow dentists and on women in general. His beliefs were now rationalized as coming from a supernatural form in the image of God, to preserve the self-respect and integrity of his false personality.

PERIOD OF TRANSFERENCE

From a Freudian aspect, transference in this presentation may be explained as being a recurrence of the Oedipus complex. The analyst assumes the rôle of some important person in infancy—in this particular case, that of the father. In this analytical approach, the writer tends to disagree with Freud and bases his conceptions on those of Horney.

Transference in chronic schizophrenia is a difficult problem to cope with; and before any attempt is made, a thorough study of the situation in hand must be planned.

To begin with, the analyst must assume a sympathetic and human understanding of his patient. He must use caution not to project his own emotions or past hostilities. Before attempting to secure this sympathetic attachment, a preliminary study of the individual's present personality traits, ward behavior, and general attitude toward others must be obtained. In this particular case, one finds an individual who is in a continuous state of emotional anxiety and who has withdrawn from reality. He finds himself in a desperate and hopeless state. He despises himself for being

weak and yet dreads the thought of having to be dependent on others. Finally, tremendous hostility against his present environment is repressed.

When this preliminary study was completed, the next step in mind was to gain S. D.'s confidence. This was arrived at, at first, by not interfering with any of his personality peculiarities. To explain this, the following example may be given. During the process of tube-feeding, a stubborn resistance would be set up if a definite pattern of procedure was not followed. A clean towel had to be placed across his chest, the bed had to be arranged in a certain manner, only patients of the same dormitory could be chosen to hold him in place; and before the tube-feeding could be poured, his permission had to be obtained. In dealing with such a situation, the patient must be brought to believe that the analyst is not a domineering and compelling individual, but one who is understanding and sympathetic.

Paul Federn in his paper, "Psychoanalysis of Psychoses," explains this point quite clearly. He states: "One wins the normal transference of the psychotic by sincerity, kindness, and understanding. It is a great error to believe that the psychotic accepts without protest the turmoil of his thoughts; whenever a psychotic feels that you understand him, he is yours. Frequently he offers opposition at first, but often by the next day the explanation has been accepted. One must avoid blame and severe admonition, any smiling superiority, and especially any lie. There are no white lies allowed with psychotics. To lie to a psychotic is contrary to the injunction in the Bible that one must not place a stone in the way of the blind. To be slapped in a friendly way on cheeks, shoulder or buttocks, to be treated like a silly child, is an indignity."

Only when this state of confidence between analyst and patient is established, can mental contact begin. Daily meetings were held with S. D., in which topics of interest to him were discussed. This method was used to stimulate his interest, and to develop his mental capacities. At first, a critical outlook was assumed by the patient. This is very characteristic of the schizophrenic patient, who is especially sensitive and suspicious. During the initial conversations, which serve merely as a means of introduction, such a pa-

tient may even test the real attitude of the physician toward him. This contact is a new experience to an individual who has lost all faith in human relationship; and the slightest error on the part of the analyst may prove fatal. It now occurs to him that perhaps the analyst is really one whom he can confide in and trust.

During the first meetings in this case, the analyst at first played a passive rôle and allowed the patient to talk at length. It was interesting to discover that, as the discussion continued, he would deviate from his original topic of conversation and bring subconsciously into play his emotional conflicts.

Having accomplished the first part of the analysis, that of a mutual introduction and a sympathetic attachment; a study of the patient's total personality structure is to be determined. The analyst now no longer plays a passive rôle, but as Horney states "should deliberately conduct the analysis." It was during this phase of the analysis that the present writer found in his patient an individual with underlying neurotic trends, which apparently had developed in early childhood, a person who was continually striving for some form of dependency and reassurance. His need of affection and warmth on one side, and his compulsive need for independence on the other, had created tremendous anxiety which continually moved in a vicious circle. To remove the underlying anxiety responsible for such a vicious circle, is one of the primary therapeutic aims of psychoanalysis. The patient must recognize this state of anxiety and eventually come to an understanding of the underlying structure responsible for it. Caution must be used at this instance not to attempt an immediate explanation of the predominant symptoms. Although the patient may be resentful at first and demand such a procedure, it is best to retain these explanations until an understanding of the character trends is discovered; and until it is determined just what effect they may have on the individual's personality as a whole in relationship to other personalities.

In this particular case, the problem of S. D.'s "need to be perfect" was discussed at length. When such a character trend had been recognized, the analyst attempted to explain just how this need to "excel" and be "unique" made S. D. feel superior to others; and how—because of his rigid personality—he was unable to conform to the normal expectations and standards of interper-

sonal relationships. The therapist explained that in spite of the patient's apparent need for independence, he was actually entirely dependent on the expectations and opinions of others. It was further explained to him that because of his need for affection and warmth in early childhood, he had become insecure and helpless, and that because of these factors a compulsion for dependency had developed which was in turn compensated by his false need for independence. Finally, this need for dependency in the form of affection and love and the desire for independence on the other hand created tremendous anxiety. The patient suddenly developed insight into this problem, which may be illustrated as follows: "In spite of my successful practice in Capetown, it seemed that I was never satisfied. I always had the urge and would dream about conquering the entire world. Then, at other times, I would become very moody and decide to give up everything and go back to our farm in Emporia. When I felt this way, the only person I would go to for advice and help, was my wife. She would comfort me and give me courage to go ahead. However when my practice began to fail, I lost the little courage I had and blamed her for everything. I now can understand why I acted that way."

As the analysis was carried on, various problems were brought to discussion with the thought of solving them with a human understanding in mind. The patient readily accepted many of the analyst's interpretations. His slowly failing practice was explained on the grounds of changing economic conditions of the time and on his own incapacity to keep up with his work because of his increasing years. It was shown, that because of his rigid personality, he was unprepared to accept such a problem. He, therefore, blamed his wife who, after all, was expected to take all the blame, since she was the center upon which all his responsibilities were to be directed.

The writer and patient now had arrived at the final stage of the transference which consisted in reconstructing the individual's entire personality character, so that he might better himself in human relationships. His drives to be perfect had to be replaced by a desire to be genuine and sincere. Throughout this period, S. D. was taught to believe that he could face society again as he had once previously. During this period of reconstruction, the patient

at first assumed a responsible position on the ward. He assisted one of the attendants in the care of the bedridden patients. His prestige and self-esteem were now being developed. It was interesting to observe at this point that he now made a strong effort to win the confidence and friendship of those about him. He took great pride in aiding those elderly patients who appeared to him to be helpless and suffering. He even discarded his State clothes in preference for one of the physician's old suits; which he had continually refused to wear at previous times, because he considered himself then "as being a prisoner of the State, unlawfully committed." He became interested once again in newspapers and books and, when assigned to the occupational shop, completed excellent work in carpentry. His outlook on life and human relationships was enlightened as a whole. His attitude toward religion was still as firm as ever; but he no longer referred to himself "as one who had a duty to perform in this world," but "as one who had paid for his sins and was now enjoying everlasting peace." In time he received a ground parole card and became the physician's messenger. He derived tremendous satisfaction from the fact that he was free once again to face society and carry on in a responsible position, especially for someone in whom he had great confidence.

This period of reconstruction developed quite successfully until the problem of his being tube-fed was discussed. Here, the solution offered by the analyst was not accepted as being sufficient. The mere explanation that this procedure was unconventional and interfered with his means of establishing human relationships, was not enough to eliminate it. A more definite and authoritative source had to be reached. His objections were directed along the lines that, since he was unfairly committed to the institution and treated in a cruel fashion for the past 12 years, a fair hearing on his sufferings must be conducted. This problem was finally solved by permitting the patient to discuss his case at length with a group of three members of the staff. He derived tremendous satisfaction and gratitude from this meeting, and the following day he resumed his eating habits. His prestige and self-esteem were thus maintained.

The patient was now well on the way to recovery. He developed insight into his condition, and his security and reassurance were once again established. His anxiety was lessened; and his attitude toward human relationship has now improved to such a degree that he is capable of discarding his prevailing neurotic trends. Schilder clearly makes this point in his book on "Psychotherapy:" "The physician helps the patient to understand his attitude towards the problem of the outside world. He is merely an older and wiser brother who knows more about the goals and aims which are worth while and how to reach them. The physician thus becomes a guide and a mentor who stresses the necessity of seeing the useful side of life. He explains to the patient that he has to fulfill his duties towards the community, towards his friends, and towards his love objects, and he shows the patient how and why he has shunned his responsibilities and gone to the useless side of life. It ends in some way in common sense."

The patient was paroled in August, 1943, and is making a satisfactory adjustment. Interpersonal relationships are still maintained between the patient and physician whenever possible.

DISCUSSION

The writer has attempted to present in brief form, a case report of positive transference in schizophrenia, as applied to actual hospital practice. Analysis in this paper is not to be interpreted in the strict sense of the word, but merely as a psychotherapeutic means.

Transference was accomplished only after a thorough study of the patient's total personality structure was made, with the thought in mind of reconstructing it so that the individual could return to establish interpersonal relationships in a safer and more secure manner.

Only the future can show whether transference in this particular case came about as an understanding and recognition by the patient of the underlying structure responsible for his compulsive neurotic trends, or whether his "morbid dependence" state is merely projected on the physician in a more acceptable and durable fashion than in the past.

In conclusion, the writer wishes to dispute the idea that transference is impossible in psychotics. Wherever a physician-to-patient attachment is possible, an attempt should be made to arrive at such a therapeutic goal. It is only through this means that we can bring light into the pessimism usually found in regard to treatment of patients in mental institutions.

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EDITORIAL COMMENT

DUCE, DUCE!

Is the American Medical Association a Fascist organization? We hope not but if not, how does it happen that its organ, the *Journal*, is dominated by someone who imitates the ruthless tactics of Il Duce? Let us be more specific.

In May, 1943, Governor Dewey, for reasons which he considered sufficient, and he was clothed with ample authority to do so, appointed an extraordinary commission to make a study of the institutions of the Department of Mental Hygiene and report with suggestions and recommendations for their betterment. The committee, headed by a prominent New York lawyer, was composed of men distinguished as hospital administrators or in allied welfare activities. The medical directors of the 26 institutions comprising the Department welcomed the creation of this commission, approved of its personnel and rendered the fullest cooperation and assistance to the undertaking. They knew that such a sweeping investigation and study was long overdue. They knew that progress in modern treatment and acquisition of the facilities, personnel and equipment for carrying out such measures were being acquired too slowly to keep the institutions abreast of the times. They knew that in the past, thorough-going investigations and publicity served a useful purpose in stimulating reluctant legislators to provide more generous appropriations for those purposes. The hospital officials, physicians and boards greeted the announcement of the Governor's act with satisfaction. They expected the Dawson Committee to be thorough in its work and to render a report that would be blunt but illuminating. It would be an unpleasant ordeal but the benefits to be anticipated as a result would more than compensate. There would be unpleasant notoriety, of course. They were prepared for it. That seems to be the way progress has been made in the past in public institutions, that is by arousing public interest which often drops to a low level when they run along too smoothly for their own good. Fundamentally, this was to be a study of the mental hospitals of the State from the point of view of the leading general hospitals. No psychiatrist was a member of the commission and no one connected with the State government took part in its judgments or recommendations. The published report was issued in March, 1944—a pamphlet of 124 pages. It proved to be as thorough and as blunt as was anticipated and as it should have been. It discussed the physical plants, their adequacy and equipment; personnel, its numbers, quality and distribution; medical and nursing care

of patients; the quality, preparation and service of food; social service, occupational therapy, accounting systems and records; in fact, every department and activity of the 26 institutions was scrutinized and appraised. The report is a document of great value and will serve as an agenda for years to come.

The investigation was no pink tea party. It was austere, searching and thorough but nowhere in the report will be found any criticism of or reference to political influences for the simple reason that they were not discovered nor have such ever been a factor of any moment in the State hospitals system. The only one now remembered who attempted to introduce politics into the system was a former governor, William Sulzer, in 1913. For this and other crimes he was impeached, cast out of his high office in less than a year after his election and his fate has served as an example for all time. It is true here as elsewhere men will appoint their friends to office by preference when the position is not covered by Civil Service Law and regulations but in this State all salaried positions in the Department except those of Commissioner and chaplains are protected by civil service law that has teeth. It is likewise true that civil service systems have their limitations. This is not the occasion or place to discuss civil service; suffice it to say that it prevails in New York and is respected and whatever politics there may be in the Department, it is petty, trivial and keeps underground.

The gentleman who is responsible for the editorial pages of the Journal or an assistant happened upon a copy of the Dawson Report and having a burning recollection of his lost prestige in a contest with Federal Government on the issue of state medicine he must have thought that here was an opportunity to regain some of it by the well-known stiletto methods of Signor Mussolini. Having no knowledge of the true situation in New York and assuming, because he wanted to, that "state medicine" was being shown up by the report, he scans it briefly or imperfectly and proceeds to write and publish a libelous, unfriendly and untrue criticism of the institutions of this State, omitting what is commendatory and drawing sweeping conclusions from specific instances to present a garbled statement that is a reflection on the integrity and professional standing of more than 500 well qualified physicians, nearly all of whom are members of the American Medical Association, and over 1,500 registered nurses, dubbing them as ignorant and ill-trained when the writer in question could have had no knowledge of the real situation. The real situation is that the State of New York is doing the best job of any state in the union in caring for mental diseases. Its institutions are as a group the best in the world. Its methods and work and the results achieved are equal to any other state or nation. In the Dawson report its huge organization was being judged not by corresponding undertakings in

other states or by the Federal Government but by the operation of relatively small general hospitals where the bed capacity of the largest is comparable to only the smallest of the State hospitals and where problems such as the latter must constantly deal with are unknown or minimal. The report goes on to state that in it emphasis is laid upon conditions that should be improved and that with all their faults the institutions are among the best of their kind in the nation.

An exceedingly stern system of ethics is supposed to govern the practice of medicine. The professional conduct of the physician is prescribed in a rigid Talmud derived from the basic oath attributed to Hippocrates. A medical editor's concern with ethics, furthermore, can hardly be restricted to those of the medical profession—even if his concern were broad enough to embrace the whole medical field instead of one narrow sector involving medical economies. The medical editor is an editor as well as a doctor, a writer as well as a therapist. Other professions than medicine have their ethical codes. A strict one governs the practice of writing. And the medical editor has no more justification for disregarding the ethics of writing than for flouting the ethics of medicine. In polemic writing it is unethical, for one thing to be careless or inaccurate in citing the data upon which writing is based. It is not ethical to quote from other writers without taking care that quotations are representative of the context and give a fair impression of its general content. It is not ethical to give indirect quotations in such a fashion as to convey the impression that the writer's own observations are part of the original material. It is not ethical to draw conclusions not drawn by the original writer unless it is plainly stated that they are such conclusions. It is not ethical to infer a general practice from an isolated instance without indicating unmistakably that there is such an inference. Finally, it is not ethical to publicize condemnatory material in such a place and in such a way that the victim is without reasonable opportunity to attempt refutation or vindication. The *Journal's* little essay on "Political Care of the Mentally Ill in New York,"* is in flagrant violation of all these points of ethics—a substantial accomplishment in a single paragraph of less than 350 words.

A fine carelessness with the data opens this bitter little essay. "... an epidemic of amebic dysentery occurred in the Creedmoor State Hospital in New York in March, 1943," avers the *Journal*. In 1942, 12 cases of amebic dysentery were discovered at Creedmoor; the earlier ones were diagnosed on the autopsy table. The infection was believed to be carrier-borne and the cases as they occurred were promptly reported to the Board of

**Journal of American Medical Association*, September 2, 1944, p. 33.

Health and its cooperation invited in an effort to stamp out what seemed to be developing into an epidemic.

The *Journal* gives several indirect quotations to support its conclusion that the New York State hospital system embodies "all the faults that usually accompany compulsory political care." This removal of indirect quotations from the context of the report ignores a specific reference in the Dawson report to the fact that "There is much (in the Department) of which to be proud and the fact that the emphasis in the report is upon conditions that needed correction should not keep us from realizing that on the whole the New York institutions, with all their faults, are among the best of the mental hospitals in the nation."

In discussion of professional service, the editor notes from the Moreland Act commissioners' report references to emphasis "on administration at the expense of clinical medicine" and to the neglect by some institutions of the shock therapies. He adds the charge that nurses were "defective in quality;" and the reader will, of course, assume that this is one of the commission's findings. The commission, it should be observed, found no such thing. It did criticize the nursing schools on the grounds that too many of their graduates failed the State Board of Regents examinations but made no criticism whatever of those who did pass the examinations and took up nursing duty. There also may have been liberal misinterpretation of the commission's observation that many of the most promising graduates did not remain in the service of their hospitals—an observation which could be made of almost any school in the country, since hundreds of graduates annually desert the general hospitals, where they were trained, for work which is better paid, more interesting or less arduous than ward service. This is an instance of attributing to the writer of the commission's report a finding which is a piece of speculation by the *Journal's* editorial writer, as well as an instance of drawing a conclusion not drawn by the original writer but attributed by inference to him—a conclusion not only not labeled as the commentator's own but not supported in any respect by the original data.

This part of the commission's report—that on nursing service—seems to have put the greatest strain on the ethics of the *Journal's* editors. The commission, in condemning "the privilege accorded to officers of the institutions to demand an unlimited amount of special nursing service for members of their households," cited a single example of an abuse, an instance where "a staff member required the full time service of three professional nurses for several weeks to attend a child ill in his home with whooping cough." From this instance, the *Journal of the American Medical Association* concluded that nurses in the New York State Department of Mental Hygiene "were assigned to administrators and their families rather than

their patients;" and with all the effrontery of a Goebbels, it flatly attributes this conclusion to the report of the Moreland Act Commission.

Finally, the Journal has vilified the New York State Department of Mental Hygiene in a place and in a manner which forecloses effective reply. If a due regard for the ethics of writing could be expected, one might anticipate the respectful reception of demands for amends. But in the absence of such regard and in view of the additional fact that the libeled party in this instance is psychiatry, such an amend seems unlikely. For there has been reason to suspect in the past that the great man of Chicago looks upon modern dynamic psychiatry, if not upon the whole specialty, with something of a jaundiced eye—if not indeed with an attitude psychiatrists are accustomed to recognize as akin to a paranoid trend. An apology to appear where the defamation appeared is, of course, indicated. But it is not expected. Dictators don't apologize. Do they? Duce! Duce!

WHO CALLED THAT PSYCHIATRIST A MALPRACTITIONER?

It is always easier to answer the man who calls the piccolo player a lousy bum than to reply satisfactorily to the question, "Who ever called that lousy bum a piccolo player?" So Henry C. Link, Ph.D., "practicing psychologist," and author of "The Rediscovery of Man" and "The Return to Religion," seems to have a certain initial advantage in his current controversy with the profession of psychiatry. For Dr. Link—in a bitter and sensational attack on psychiatry in the armed services—does not confine himself to the accusation that the army's mental specialists are malpractitioners; the question he puts is rather, "Who ever called these malpractitioners mental specialists?"

Dr. Link, writing on "The Errors of Psychiatry" in the July, 1944, American Mercury, starts with the following premise: "... the doctrinaire assumptions and rule-of-thumb decisions of some . . . practitioners are today literally *creating* mental cases, and at an appalling rate. What some psychiatrists have been doing to individual civilians on a voluntary basis, many are now doing wholesale through the military draft machinery and the army medical apparatus. The effects on civilians now and after the war, may, in my opinion, be devastating."

From this auspicious beginning, Dr. Link proceeds to cite what he believes to be facts and figures. His errors in facts and his misuse of figures have been more than adequately answered in the publication in which Dr. Link's article appeared, by Karl M. Bowman, M. D., president of the American Psychiatric Association, who discussed "Psychiatry at War" in the September, 1944, issue of The Mercury. THE PSYCHIATRIC QUARTERLY does not presume to attempt improvements upon or additions to Dr. Bowman's

exceedingly able discussion of Dr. Link's alleged facts and misinterpreted figures. THE QUARTERLY does, however, believe it fitting and proper here to give some additional consideration to probable public reception of Dr. Link's premise that psychiatrists are engaged in "literally *creating* mental cases."

The good doctor's view that civilian malpractice is widespread and that civilian malpractitioners have seized joyfully upon the opportunity for wholesale malpractice in the armed services is unfortunately one which is likely to commend itself to wide popular acceptance. It was a layman, not a mental specialist, who, with great insight, once declared that the trouble with human beings in general (necessarily including psychiatrists) was that they had weak intellects and strong feelings and that they thought with their feelings. It is this truth, with which most of us are familiar when we meet it dressed up in technical terms, which forms the human basis of prejudice, irrationality and propaganda. With it should be recalled another profound observation, this by a humorist, also not a mental specialist, that one great difficulty with most of us is that we know altogether too many things which aren't so.

Psychiatry—and the memory of man runneth not to the contrary—is something about which men think with their feelings. The twilight and darkness of the mind are horrifying conceptions. The "insane" are hopeless beings, living in misery; the "maniac" is a terrifying creature; psychiatrists must have something wrong with themselves to choose to spend their lives in constant contact with irrational behavior and deranged thinking. The man in the street also knows many things which aren't so about psychiatrists—and about psychologists. He is likely to know, for example, that the psychologist is a scientist who has studied the "normal" mind and knows all about it, while the psychiatrist is an inferior specimen who, if he has done any studying at all, has confined his attentions to the completely incomprehensible "insane" and so knows less than nothing about the normal mentality. The man in the street knows that psychiatrists are untrustworthy and unscrupulous; he has frequently read their opposing testimony on both sides of sensational murder cases. (He knows but seems less impressed by the fact that United States Supreme Court justices may also have public disagreements.) The man in the street, too, may know, that many psychiatrists are highly immoral—an opinion shared by some of their professional colleagues—for they maintain the views of that unspeakably nasty man, Freud, and their thoughts never rise above the genital apparatus even if by superhuman endeavors they are able at times to get them that far out of the gutter.

In discussions of the need for public education in matters psychiatric, this *QUARTERLY* has pointed more than once previously to the prevailing emotional reactions and general misinformation of the public in regard to psychiatry. Because of this, we may venture to express some slight degree of wonder here as to whether Dr. C. C. Burlingame, chairman of the committee on public education of the American Psychiatric Association, is entirely correct in voicing the opinion that no serious harm was done by the publication of Dr. Link's assorted misinformation.

It is not only in war that advantage lies with the attack. The acquitted man is seldom quite cleared of public suspicion of murder; and whispers derived from a thwarted husband's malice will follow an innocent wife, however completely exonerated of baseless, divorce court charges. "Where there is smoke, you know . . ." Enough smoke shrouds the practice of psychiatry to make a Sunday hat for a first-line volcano. And one may well believe that even such a highly selected audience as the readers of *The American Mercury* will be likely to remember that "a psychologist named Link certainly exposed the foolishness of army psychiatry," long after Dr. Bowman's able defense and explanations are forgotten.

The attack, of course, will be all the more credited because Dr. Link will be generally accepted by the uninformed—including many members of the medical profession—as an expert witness. A psychologist is by Webster's definition a person "versed in psychology" . . . "the science of mind." It is commonly supposed that he knows all there is to know about the subject; and half a century or so ago this might have come close to being the case. But knowledge of the mind was in that day confined to certain of the more obvious functions and reactions and to determination of the more obvious capabilities. Academic psychology has been built largely on the foundations laid at that time. It is an indispensable modern science; its ramifications are wide; its reputable practitioners are required to spend years of training; and its clinical workers frequently are required to serve internships. Our institutions for mental defectives and many of our hospitals for mental disorder could not function efficiently without the trained psychologist.

But while academic psychology has been developing along its own useful lines another and considerably more important branch of the science of the human mind has been developed by an entirely different profession—the profession of medicine. It is the specialty of psychiatry. Unlike psychology, its chief concern is not with the processes of mentation; it also considers affect, emotion, the "irrational" mental process, the concealed motivation. And it is based on medicine and must be based on medicine, for psychiatry has demonstrated that no function can be considered apart from the organism of which it is a function; the mind can no more be under-

stood apart from the body than digestion or the circulation of the blood can be understood through study of fluids in test tubes.

It is the fundamental error of certain modern psychologists that they believe mind can be so understood. In this belief, some of them are practising psychotherapy without medical direction; and many others seem to believe that they are competent to do so. Others are actively hostile to psychiatry. It would be possible to cite chapter and verse for at least one distinguished psychologist, who can point to a record of important achievements in research and clinical psychology, and who has publicly urged the viewpoint that victims of certain "functional" mental disorders are foredoomed, constitutional inferiors, for whom medical treatment is a shameful waste of time and whose needs should be served by purely custodial care *under the direction of psychologists*. It would be possible also to find psychologists who feel that the psychiatrists' failure to put mind and body into separate compartments is something sinful and immoral, and that knowledge of somatic imperfections and disorders has led to psychiatric willingness to ignore sin, excuse immorality and coddle weaknesses which firmness and discipline would eliminate. Dr. Link's contention that the psychiatrists are making mental invalids wholesale out of mamma's boys and weaklings who only need a little army discipline to "make men of them" would suggest that he belongs to this group.

THE QUARTERLY feels that for reasons outlined in the foregoing, and for many, many more, such diatribes as that by Dr. Link are likely to be received seriously by the public and should not be taken too lightly by the profession. In our opinion, it will not do to assume that articles of this nature do little harm or that such harm as may be done can be counteracted by the most authoritative, scientific, well-reasoned and well-written reply.

THE QUARTERLY is disposed to believe that the real answer to this sort of thing will depend on two long and painful processes; and this journal has urged in the past that more attention be paid to both of them. The first necessary step, as we see it, is to end the practice of medicine—which includes the practice of psychotherapy—by other persons than physicians. There is no more reason to believe that training as a psychologist fits a man to practise psychotherapy than to believe that a degree as an electrical engineer fits one to interpret electrocardiograms. We have no wish to end the excellent and necessary work now being done in hundreds of clinics and elsewhere by lay psychotherapists, including psychologists. But we do wish to bring it under medical control where it belongs. There is no reason why certain competently trained laymen under psychiatric supervision should not practise psychotherapy, as competently trained laymen now

practise physiotherapy under medical supervision. But the reputable lay physiotherapist does not pretend to practise medicine; it is more than time that the reputable lay psychotherapist abandoned similar pretensions.

The second necessary step, we conceive to be general medical and popular education. Psychiatry is a difficult specialty of medicine, fully comparable to such other specialties as endocrinology, neurology and cardiology. It is to be learned only through advanced study and arduous apprenticeship. It is not anticipated that either the public or the medical profession in general can be persuaded of this through any such obvious device as those employed in the anti-tuberculosis and anti-venereal disease campaigns. But psychiatrists as a body comprehend more men who should be informed on the human mind and its workings, on propaganda and its uses and abuses, than any other professional group in the world. It will be a reflection on their competence in their own profession if they cannot devise means to popularize the basic facts about it. There is a wide range of possibilities. The medical schools should be much more accessible after the war for psychiatric training than they ever have been in the past. And there should be many means of reaching the general physician other than through the usual channels of education and official publication. An article on the specialty by one "Si Chiatrist" in the current issue of the humorous publication, *The War Doctor*, may be cited as an example. This light little essay will probably do more to call the attention of physicians in general to the existence, usefulness and current high standing of psychiatry than a dozen serious scientific articles or a score of pointed preachments.

Psychiatrists do not face the comparatively easy task of refuting the abusive charge that they are scientists engaged in malpractice. They have the much harder one of answering questions based on a fairly general belief that they are a collection of malpractitioners who display effrontery in calling themselves scientists.

BOOK REVIEWS

Psychiatry and the War. Frank J. Sladen, M. D., editor. 505 pages. Cloth. Charles C. Thomas. Springfield, Ill, and Baltimore, Md. 1943. Price \$5.00.

Lest the civilian reader be frightened away by the esoteric implications of the title "Psychiatry and the War," the subtitle hastens to describe the book as "A Survey of the Significance of Psychiatry and Its Relation to Disturbances in Human Behavior to Help Provide for the Present War Effort and for Post-War Needs." This is a rather large order, but it can be said to the credit of the book that its promise tends to be fulfilled.

The book is a compilation of 30 papers and two symposia presented by 40 psychiatrists and educators and one minister at the Conference on Psychiatry of the University of Michigan and McGregor Fund in October, 1942. Thus nearly all of the papers are read as lectures with a refreshing reversal (at least in scientific literature) to the first person singular. Since the speakers were limited to 20 minutes, each paper is short, and monotony is avoided in the reading.

There are five parts to the book. Part One deals with "The Philosophy of Psychiatry;" Part Two with "Research in Psychiatry;" Part Three is called "Psychiatry in the Training, Experience and Education of the Individual;" Part Four is "Psychiatry and the War," and Part Five consists of the symposia, the first discussing Parts One, Two and Three, and the second relating to "Psychiatry and the War."

The "Philosophy of Psychiatry" is approached from the standpoint of the "meaning and scope" of psychiatry as presented by Adolf Meyer. The relationship of psychiatry to psychological schools of thought, to internal medicine, general surgery, pediatrics and geriatrics is treated individually in successive papers. Obviously, this section bears little relation to military psychiatry. However, it serves as an excellent orientation to the widening scope of psychiatry whose recognition the war has again accelerated.

"Research in Psychiatry" is an interesting section dealing with the meaning of research, the controversial in psychiatry and the more specific avenues of research as laid out by psychology, physiology and psychosomatics. The highlights of this section are the papers by Franz Alexander and the late C. Macfie Campbell. Campbell's paper on the "Controversial in Psychiatry" presents in 10 pages a survey of the things psychiatrists argue about among themselves or with nonpsychiatric colleagues; while Alexander has used his time to clarify some often heard expressions of loose thinking.

It is refreshing to read "that psychological phenomena should be studied in their psychological causality with intrinsically psychological methods and physiological phenomena in their physical causation with the methods of chemistry and physics." (p. 126) "It is hardly conceivable that the different moves of two chess players can ever be more clearly understood in biochemical or neurophysiological than in psychological and logical terms." (p. 127) This illuminating statement is followed by an exposition of conversion phenomena as first described by Freud and the logical suggestion "that we restrict hysterical conversion phenomena to symptoms of the voluntary neuromuscular and the sensory perceptive systems and differentiate them from psychogenic symptoms which occur in vegetative organs." (p. 129) The elaboration of these themes; the differential diagnosis between vegetative neurosis and conversion symptoms, and the definitions of psychogenesis should certainly be read by every psychiatrist who has ever pondered over the intricacies of psychosomatic pathology.

Part Three is less illuminating than the preceding sections. It is largely concerned with education and the rôle of the school, the church and the social structure in the development of the individual. There is much generalization, and specific suggestions seem to lack validity. The chapter on courtship and marriage ignores psychology completely; and Gesell's contribution is typical of Gesell: beautifully scientific in behavioristic observation, but apparently lacking in appreciation of psychodynamic motivation. The Rev. Otis R. Rice, in the chapter on "Religion," raises the interesting question of whether ministers and psychiatrists are competitors; and Healy's chapter on "Sociology and Criminology" gives an excellent review of the recent literature on the subject.

The remainder of the book deals more specifically with military psychiatry. Col. William C. Porter's statement that "the mission of the medical department is to make men fit for combat or for servicing combatant troops and, failing that, to remove casualties from the Army" explains much to civilian and military psychiatrist alike. The chapter on psychiatry in the navy stresses selection of personnel, as does the chapter on psychiatry in aviation. Bartemeier's chapter on "Psychiatry in Civilian Defense" is well done and his suggestions may be of benefit in the future. An excellent contribution to this section comes from John W. Appel ("Psychiatry in National and International Relationships"). This reviewer has yet to see a better discussion of morale than is given in this chapter. All are urged to read it. Kolb's remarks on war and mental disease are also provocative: "the evidence of the past, incomplete as it is, seems to suggest that the aggregate of mental disease is very little affected by wars, peace, depressions or prosperity." (p. 302)

Part Five tends to sum up the previous sections in the book, allowing for the publication of discussion from the floor and the inclusion of some miscellaneous although relevant material, such as the chapter by Freeman on "Pre-frontal Lobotomy."

As is obvious from the foregoing, there is much food for thought in this book. It is heartily recommended. The outstanding weaknesses lie in the almost complete lack of discussion of therapy, and in the title, which leads one to expect more on military psychiatry than is actually forthcoming. Nevertheless, Dr. Sladen has largely realized his objective to make the book "tempting, not difficult, and in all a happy experience." (p. vii)

War Psychiatry. Published under the auspices of the Institute for Psychoanalysis. 55 pages. Paper. Chicago. Price 75 cents (with two others of set, \$2.00).

This pamphlet consists of four papers on brief psychotherapy presented by Murray, Grinker, Miller, and Blain, and four papers on psychologic testing for military service presented by Mittlemann, Beck, Harrower-Erickson, and Wells. (A résumé of discussion from the floor is also added.) The papers were read at the Second Brief Psychotherapy Council in Chicago in January, 1944. Almost all the paper have appeared in slightly altered form in various journals so that the reader who keeps abreast of the literature will notice a familiar ring to the articles.

The psychiatric contributions with their emphasis on therapy are extremely well done and should be read by all psychiatrists, both military and civilian. The other papers, dealing with the Rorschach and other tests, are less emergent at this time. In all, this is a very handy addition to one's library and, unwittingly, an excellent companion piece to Sladen's "Psychiatry and the War."

Psychiatry in War. By EMILIO MIRA, M. D., 206 pages. Cloth. W. W. Norton and Company, Inc. New York. 1943. Price \$2.75.

The Salmon Memorial Lectures since they were established about 10 years ago have been without exception outstanding contributions to the literature of psychiatry. The present series is no exception. These lectures were given by Dr. Emilio Mira, lecturer in psychotherapy and medical psychology in the University of Buenos Aires. He was formerly professor of psychiatry at the University of Barcelona, Spain, where he gained much of the experience and knowledge which these lectures record.

The lectures are not presented separately but are merged into a continuous narrative consisting of nine chapters. The volume begins with a general review of the psychiatrist in war. The astonishing developments which

have taken place in modern warfare since the Franco-Prussian War are indicated. From relatively small mobile armies, the personnel has grown to millions of men on each side, equipped not only with matériel of a pattern already familiar but manifestly more powerful than formerly, but also with engines of destruction in the air and under seas which human beings were never called upon to withstand until recent years.

The result has been that man's nervous and emotional equipment must be prepared to endure great ordeals; and, at best, frequent rest periods are necessary for recuperation. The emotions of fear and anger in all of their manifestations are subjects of prime consideration. Morale is seen to be something that can be developed and maintained—or it may be lost and the group become disorganized. Mental hygiene is as important in modern armies as are surgery and general hygiene. Lessons drawn from the Nazi army and from the Spanish Republican army are presented and discussed.

The indoctrination of German youth for aggressive war begins with the primary school. The boy is taught that submission to authority and sacrifice for the Reich are noble traits. He studies the Nazi version of history in which Germany is the only decent and lovely country. He joins gymnastic groups where he practices endurance, to be hard and callous mentally and physically. In adolescence he is taught that *Mein Kampf* is to be regarded as the German bible, and each youth is to dedicate himself to avenging the shame of the Versailles Treaty. All of these things and much more constitute the indoctrination which the German receives from his youth up. The three enemies of Nazism are bolshevism, Jewish capitalism and decadent imperialistic democracy; they must be destroyed; and each youth must be one of the agents for that destruction.

One may well see how the Nazis under the influence of this teaching become morbid. They are afflicted with disease, probably incurable in the individual, and until the present generation passes away its members must be dealt with as enemies of society.

Dr. Mira's book provokes thought and further reading. It should be read and studied in all democratic countries so that people may know what modern war is and how by collective effort it may possibly be prevented in the future.

The Neuromuscular Maturation of the Human Infant. By MYRTLE B. McGRAW. 140 pages. Illustrated. Cloth. Columbia University Press. New York. 1943. Price \$2.00.

In this book, Myrtle McGraw has given us a record of important work now being carried on by Dr. J. LeRoy Conel of Harvard and others in further advancement of a project which Frederick Tilney carried on more than

10 years ago. Tilney's work had to do with experiments on laboratory animals. He found that the motor activities, for example balancing, walking and other coordinated movements, made their appearance in accordance with the myelinization demonstrable in the central nervous system. Some animals were able to stand, balance themselves, walk and perform other coordinated movements within a few hours after birth; whereas others, such as kittens, rats and puppies, were helpless for a relatively long time. This period of helplessness corresponded to the delayed myelinization demonstrable in the nervous system.

Dr. Tilney planned to carry on his histological studies to the growing infant, but his untimely death interrupted the work. Fortunately, Dr. Conel is carrying on this investigation, and this book is a report of progress and is a useful and workable hypothesis of Dr. McGraw's interpretation of the material. Numerous charts and figures illustrate the text.

Sexual Anomalies and Perversions. Physical and Psychological Development and Treatment. A Summary of the Works of the Late Prof. Dr. Magnus Hirschfeld. Compiled as a Humble Memorial by His Pupils. 630 pages. Cloth. Francis Aldor Publisher. London. Emerson Books, Inc. New York. 1944.

The publishers' preface to this volume explains that Dr. Hirschfeld originally planned this work, supplied the material, planned the arrangement of the text and the form. They add that he was on his way to discuss it in the corridor of their Paris office when "he had the seizure which resulted in his death." His pupils organized and completed the work in honor of his memory. The result is a textbook which is both "by" and "about" Prof. Hirschfeld. It is a survey of his work and of the general standing of his specialty, sexology, at the time of his death, sometimes in his own words, sometimes in those of his pupils—it is somewhat difficult to tell at times which is which, except where there are directly quoted case reports.

The student or physician whose library does not include much original work on this subject will find "Sexual Anomalies and Perversions" a useful reference volume. It would be more useful with an index; and since the present is a limited edition—1,200 copies in England, with the American edition imported in sheets—this serious omission may be corrected in future. More specific identification of what material was finally selected by Dr. Hirschfeld and what was chosen by his pupils or reconstructed from lectures or personal notes would also be of aid to the reader. A feature which adds to the value of the work—the fact that when a case from Kraft-Ebing, for example, serves the purpose better than one from Hirschfeld's own practice, it is the Kraft-Ebing case which is used—is likely to confuse the student here.

The Rôle of Nutritional Deficiency in Nervous and Mental Disease.

Published by the Association for Research in Nervous and Mental Disease. Stanley Cobb, M. D., Chairman of Editorial Board. Volume XXII. 23 illustrations and eight tables. 215 pages. Cloth The Williams and Winkins Company. Baltimore. 1943. Price \$4.00.

As the title implies, the volume is a collection of papers presented by outstanding authorities in psychiatry, pharmacology, surgery and internal medicine on the rôle of nutritional deficiency in nervous and mental disease. The subject is timely, for so much progress has been made in better understanding of enzymes and vitamins in recent years that a review of the whole subject now is welcome.

The first eight chapters, comprising about 108 pages, are devoted to papers on the subject of vitamins and enzymes and the understanding of disorders resulting from their deprivation. The second half, also about 100 pages, contains eight chapters or theses in which particular syndromes are considered—pernicious anemia, multiple neuritis, pellagra and others. Drs. Karl Bowman and Herman Wortis contribute a good chapter on psychiatric syndromes caused by nutritional deficiency.

It is becoming quite generally recognized that nervous and mental "diseases" are correctly viewed as belonging in the domain of general medicine. The whole realm of science must be called upon for contributions. One of the obstacles which must be surmounted is the difficulty of harmonizing viewpoints from so many outlooks and definitions from so many sources. In a brave attempt to deal with this difficulty, the editors of the volume have thought it wise to prepare an introduction in which the need for improvements in terminology is pointed out. The gist of this introduction may be summed up in a quotation from the last paragraph: "Although at present it is impossible to attain agreement on terminology one can expect relief from this confusion as more is learned about the etiology of mental disorders. In contrast to neurology, psychiatric terminology has been used inaccurately. In particular, the words neurosis, neurasthenia, psychoneurosis, and psychosis have been employed by the contributors to this symposium in such an indiscriminate fashion that the editors have deemed a discussion of the meaning of these words essential as an introduction to this volume."

It must be conceded that the criticism is well taken. There is more diversity in the employment of terms like neurosis, neurasthenia and psychasthenia than is justifiable. Some of this is probably to be accounted for by translators, for foreign writers have contributed abundantly to modern psychiatry. Then, too, newer concepts which tend to replace older ones make their way, in psychiatric as in other scientific literatures, slowly. As an example, there are many otherwise well-posted writers who still use the

old term "insanity" when they evidently mean "psychosis." The reviewer makes bold to point out to the committee that it would be well to begin its nosological housecleaning at home: The name of the association, as well as the title of this volume, includes a reference to mental disorders as "diseases." To make use of the term *mental disease* is to commit a solecism which could easily be avoided.

Rebel Without a Cause: The Hypnoanalysis of a Criminal Psychopath.

By ROBERT M. LINDNER, Ph.D. 266 pages with index. Cloth. Grune & Stratton. New York. 1944. Price \$4.00.

Hypnosis, psychoanalysis, criminality, and psychopathy are, of themselves, subjects to stir the curiosity of morbid thrill seekers and staid scientists alike. When these four subjects are combined into one, "the hypnoanalysis of a criminal psychopath," and given a title that would take a prize even in pure literature, it is readily understood why the book has aroused so much interest. Nor is the uncritical reader disappointed. Lindner writes well, and it is regrettable that his own actual production occupies little more than one-tenth of the book.

Following an introduction by Sheldon and Eleanor Glueck, and a preface by the author, Lindner presents "The Problem: Criminal Psychopathy." Some phases of the subject are beautifully expounded; but 14 pages is an obviously inadequate space allotment. This discussion is followed by a short chapter on "The Method: Hypnoanalysis." The method consists of a modification of psychoanalytic procedure in which hypnosis and post-hypnotic suggestion are freely used, not only to dissolve resistance but to reinforce the patient's realization of his unconscious mental content. The therapist pursues an active rôle with questioning, suggesting, and directing of the train of thought. The bulk of the book consists of "The Results:" originally a verbatim transcription (now highly edited) of 46 "hypnoanalytic" hours obtained by the use of a hidden microphone. A short "Summary" completes the volume.

Despite the fact that the essence of this "new" treatment is psychoanalysis, the author devotes several pages to a diatribe against analysis. As one reader put it: "He drinks the blood of psychoanalysis, only to spit gall at it." Other analytically oriented readers will detect a similarity between Lindner's method and that first used by Breuer and Freud and subsequently abandoned. It might also be noted, in passing, that the British school of eclectic psychiatrists (William Brown, H. V. Dicks, etc.) have long used a similar method of "hypnoecatharsis."

Lindner's discussion of criminal psychopathy is not only incomplete but too diffuse. A differentiation of the various types of criminals (neurotic,

psychotic, etc.) and a clear delineation of the so-called "constitutional psychopath" are conspicuously absent. The question inevitably arises as to the correctness of Harold's diagnosis. Harold, the prisoner patient, has pursued a life of thievery, fornication and lawbreaking since the age of 12. His twenty-first birthday finds him serving a sentence for a serious unnamed crime. A number of investigators have agreed that Harold is a "criminal psychopath." But Harold also has an eye-blinking tic. At the end of the treatment, when he has gained insight into the Oedipus complex, Harold has lost his tic. The reader infers that the psychopathy is also cured.

It is important to know whether Harold was a (character) neurotic criminal or a constitutional psychopath with a superimposed neurotic symptom. That hypnosis (or even less esoteric techniques) can cure neurotic symptoms has long been known. On the other hand, modern psychoanalytic theory regards psychopathy as being qualitatively different from neurosis, and the treatment of the psychopathy can be effected only after converting it to a neurosis. That the psychopath in Harold was cured by "hypnoanalysis" is seriously open to question. The limitations of catharsis have been discussed adequately in the psychoanalytic literature, and it need only be emphasized here that knowing the meaning of a psychotic symptom is not synonymous with the cure of the symptom.

This criticism is not intended to discourage the potential reader. On the contrary, Lindner's book is stimulating and valuable and exceedingly readable. This reviewer agrees strongly with the author that the criminal should be treated not punished. If this book can do even a little toward advancing the treatment of criminals, it deserves the highest praise. Nor need scientific validity be sacrificed. If Lindner's technique can cure criminals, its use should be mandatory.

Balinese Character. A Photographic Analysis. By GREGORY BATESON and MARGARET MEAD. xvi and 277 pages, with 100 photographic plates, ethnographic and bibliographic notes, a glossary and index of native words and personal names. Cloth. Quarto. Special Publications of the New York Academy of Sciences. Volume II. New York. 1942. Price \$3.75.

Once upon a time in the rich spice lands of the East there was a magic, scented isle where golden laughing people walked and danced, clad in beauty, through amber tropic air, borne gently from afar, over the shining rollers of a warm and friendly sea. This was Bali, the jeweled and happy Bali, as tourists saw it and as romanticists dreamed of it long ago—in the days before the monkey-folk of a red and evil rising sun bore blood and terror into paradise from across the Java Sea.

To Bali in its ancient beauty before the blackness came, went Margaret Mead, American anthropologist, and Gregory Bateson, her British scientist husband, with an interest in the island's ancient people not at all akin to wide-eyed tourist wonder or to the sympathetic detachment of the Netherlands East Indies administrator or the unimaginative Batavian business man. Their volume of splendidly reproduced candid camera work, illustrating a widely varying collection of brief scientific notes, is a *tour de force* which is difficult either to describe or to evaluate; and this reviewer can express appreciation for the evident squirmings he has noted in the efforts of other reviewers.

The Balinese is heir to an ancient and complex culture, overlaid by strata from other ancient and complex cultures. We may be incorrect in this assumption, but one would judge from Miss Mead's published data that Bali technology is incomparably richer, for example, than that of the society which she has described in American Samoa. For the nonprofessional anthropologist, it may be easier to view as a whole a society, however ancient and complex, whose technology is comparatively simple, than to view a similar society through the trappings of an equally ancient and complex technology. So intricate art in stone, conventionalized carvings, elaborate handiwork offerings to the gods may obscure the picture of humanity for the ordinary observer, whatever clues they offer to the highly trained investigator.

Gregory Bateson's astonishing photographs effectively screen out much of this technological interference, while Miss Mead's notes select from the great and confusing mass such details of art, convention and ceremony as may carry particular illumination. No reviewer can expect to achieve the delicate shades of meaning, the nice choice of words, to express in his own terms the picture of Balinese life as the authors present it. The Balinese, for all their golden, beautiful bodies, for all their warm and magic land, do not appear to be precisely happy folk. One may gather that the adult on Bali lives in a world where withdrawal, even to sleep, or to catalepsy or "trance," is a normal reaction to fear or other strong emotion, a normal feature of social organization, a characteristic phenomenon of public ritual, and, in its lesser degrees, the usual response to "threats" of close emotional contact.

One may well obtain a feeling from pictures and text of what babyhood and childhood on Bali must be like. A baby is the mother's live toy. One pets it, nurses it, holds it close, pulls its penis or pats its vulva, then suddenly rejects it. Babyhood must be a series of frustrations in an atmosphere lacking any real emotional warmth. When the infant grows into a "knee baby" and a new baby replaces it at the breast, he is discarded in

earnest, teased, tantalized, displaced by the mother's new plaything, alternately stimulated and frustrated, fitted into a pattern of insecurity which lasts all life long and colors the funeral rituals beyond.

Such generalizations are offered subject to the qualification that they may be productive of misunderstandings or may be misinterpretations on the part of the reviewer. But any reader must make his own interpretations; for "Balinese Character" is necessarily a source book. The psychoanalytic orientation of the authors is evident; in this reviewer's opinion, their failure to produce a psychoanalytic study of Balinese culture in Géza Róheim style should not be subject to adverse criticism. The data, selected from the analytic point of view, are adequate for the trained student to come to his own conclusions. The reader will recognize the inexorability of limitations based on format and material but may regret, nevertheless, that these prevented the giving of any such comprehensive—if less detailed—picture of Balinese society as that which Miss Mead achieved in "Coming of Age in Samoa." The nontechnical reader may find "Balinese Character" fascinating as an unusual sort of travel book. Purely as a picture-book, it should be welcome on many a library table.

Mental Hygiene. The Psychology of Personal Adjustment. By D. B. KLEIN. 498 pages. Cloth. Henry Holt and Company, New York. 1944. Price \$4.00.

Dr. Klein has written a textbook on the subject of mental hygiene intended for college students and advanced readers. The text is agreeable and one becomes interested in the discussion. The book is divided into four parts which have to do respectively with the groundwork of dynamic psychology, the functional and structural disorders, prophylaxis and treatment.

The author is interested in the possibilities of prevention of mental disorders and devotes considerable space to discussing this. The organic group is more readily handled in this way. General paresis, alcoholic psychoses and other toxic conditions can be prevented if one can secure the cooperation of his patient. The functional group offers greater difficulties and Dr. Klein discusses at some length the question of whether schizophrenia is to be considered as organically determined or whether it is more properly grouped with the functional disorders.

The author finds himself in sympathy with the group of laymen who are representative of the divinity students trained at the Worcester State Hospital by attendance upon summer courses. Possibly he devotes more time to the discussion of a point of differential diagnosis than would be of practical value to college students taken as a group.

The author is keenly interested in psychiatry and throughout the book gives evidence of having been a close student of the subject. We notice an advertisement prepared by the publisher which appears on the dust jacket: "For the last 15 years, in addition to his teaching and writing, he (the author of the book) has conducted a mental hygiene clinic where troubled people may learn to cope with their difficulties." The reviewer cannot avoid calling attention to this point which will be of so much interest to the psychiatric reader—and yet it will be easy to put too much emphasis upon the incidence of medical clinics conducted by those who lay no claim to medical qualifications. The lay clinician could offer to justify his course by reference to other such clinics conducted in churches by ministers and other lay people. But until it can be shown that two wrongs can be added together to make a right, this practice cannot be given professional approval.

It is a long while since body and mind were conceived of as separate entities, "*mens sana in corpore sano*," and the term psychosomatic medicine now current emphasizes the indissoluble unity of the organism. It suggests that mind is a function of the living body and can be contemplated only in conjunction with it.

This is not intended to question the author's high purpose in his desire to render help to others who need it. He is probably doing a very good job; and, should his clinic be discontinued, its loss might be keenly felt in the community. If the latter surmise should be correct, it still does not justify the existence of a layman's mental hygiene clinic in the city of Houston, Texas, but would indicate the need for a community or university neuropsychiatric clinic staffed by a psychiatrist and a psychologist with such social workers and other assistants as may be required.

Even though psychoses are described as organic and functional, there is still the psychosomatic concept in vogue; and the patient must be studied as an individual. Hyperthyroidism must be correctly evaluated, the brain tumor must be recognized, the anemia and vitamin deficiency must be differentiated and appraised and the correct medication prescribed if a mental hygiene clinic is to fulfill its proper rôle. If Dr. Klein should have, associated with him, qualified psychiatrists, and if he himself contributed his psychological learning and experience, it would be well. But then, the dust cover advertisement would be incorrectly worded. It should, in this case, express the idea that Dr. Klein is an associate on the staff of the mental hygiene clinic.

The gentle reader is reminded that this homily has no reference to the book under review. The book is excellent, readable and well arranged. It covers the field of mental hygiene for college students as well as any text known

to the reviewer and has the advantage of being up to date. It is recommended for the use of students as well as educated people generally who wish to be informed of the progress and scope of the mental hygiene movement.

Psychology of Women. By HELENE DEUTSCH, M. D., Volume I. 399 pages. Cloth. Grune & Stratton, New York. 1944. Price \$4.50.

Helene Deutsch is well known to American readers of psychiatric and psychoanalytic literature. She is usually found to be sound in her viewpoints and this is particularly true of her insight into the feminine personality. Dr. Stanley Cobb writes a foreword in which he praises her present work, as sound and up to date. In her preface, she writes, "The work which I am now presenting will supplement the previous one not only with my own experience, but also with contributions made by other writers, above all by Freud in his later publications concerning the psychology of women."

This book is more comprehensive than any other recent work on this subject. It begins with the period of childhood, follows the development of the individual through puberty and adolescence up to maturity. The period from the beginning of maturity onward is reserved for Volume II of this series which has not yet been published. Dr. Deutsch knows the value of the element of interest in what she writes; and so she illustrates her discussion with case histories selected from her own patients.

The book is essentially a discussion of the psychological development of the girl as influenced by various environmental factors. Dr. Deutsch's understanding discussion of the influence of the family *milieu* as a determining factor in the development of the child—whether that development be of the feminine, of the masculine, or of the show girl type—is very good. The influence of the mother is hardly more important in Dr. Deutsch's eyes than the influence of the father. She calls attention to the situation in the story of Christ, that though he was born as a result of immaculate conception, the situation could not be made natural with only the mother and child and so Joseph had to fill that vacant spot.

Dr. Deutsch sees that one type of adolescent woman can experience love only as an uncritical overestimation which bears no relationship whatever to the real value of the love object. When the fervor of the romance subsides, such a woman is apt to reappraise the object in the light of reality. This must be particularly true of the type of young woman found in Hollywood and the mechanism throws some light upon the fickleness and the matrimonial scandals which, though not universal even there, are associated in the public mind with the screen and are often assumed to be at

least typical. Much is to be explained by a certain immaturity that is characteristic of the stage and screen, maturity evidently being hindered in its development by the overweening narcissism of the individual. Until libido can be detached from the individual herself, there is nothing worth while to be bestowed upon a love object. The problem here seems to be a question, more than anything else, of emotional maturity. Some types of individual never attain it.

Dr. Deutsch has made a real contribution to depth psychology; and we shall look forward with interest to the appearance of the second volume of the series.

Personality and the Behavior Disorders. A Handbook Based on Experimental and Clinical Research. Drawing from the Life Sciences of Psychiatry, Psychology, Psychoanalysis, Mental Hygiene, Genetics, Neurology, Physiology, Education, Anthropology and Sociology. Edited by J. McVicker Hunt. Two volumes. 1242 pages. Cloth. The Ronald Press Company. New York. 1944. Price \$10.00.

The two volumes under consideration here are made up of 40 essays on personality and psychology, the authors of which occupy teaching positions. The essays are grouped into several parts. Part I is the theory of personality, consisting of three essays covering 135 pages. Part II deals with methods of assessing personality. This section also consists of three essays. Part III includes nine essays; and in Part IV, Volume I is completed with four discussions grouped together under determinants of personality.

In Volume II, there are also four parts. In this volume, the abnormalities, including deviations and defects, are taken up in about 600 pages. Psychological deficit, the psychoneuroses, delinquency and criminal personalities, functional psychoses and papers on therapy and prevention are included.

One excellent feature of the book is the extensive indices which include author index and subject index. Together they comprise 49 pages. Another useful feature is that at the end of each chapter there is a bibliography which gives the author's name, the date of publication, the title of the article and publisher.

The writers are well known and their contributions taken together constitute a well-rounded treatise on the personality and its deviations. The treatise is practical, and the writers take into account the newer developments in their several fields.

Proceedings of the Conference on Sulfonamides. Annals of the New York Academy of Sciences. December 14, 1943. New York. 91 pages. One of a series of publications. Cloth. Price not stated.

This is a collection of monographs, five in number, dealing with the sulfa drugs. They take up chemical composition, toxic effects, antagonistic substances and the action of sulfanilamides in the body.

Two of these essays are of particular value to the clinician. They are "The Toxic Effects of Sulfonamides," by H. B. van Dyke and "The Action of Sulfonamides in the Body," by J. S. Lockwood. A number of cuts in the text illustrate toxic lesions as manifested in the skin of human beings and in the internal organs in rats and monkeys.

This pamphlet, covering somewhat less than 100 pages, is a thorough study of the chemical composition and physiological actions of this important group of new drugs.

Other Publications Received

IT HAPPENED IN IRELAND. By the Rev. Clarence Duffy. 72 pages. Paper. The Christian Press. New York. 1944. Price 35 cents.

This is a clearly and simply told story of a patient's experiences in an Irish mental institution. Father Duffy is a Catholic priest who has what is sometimes described as a strongly developed social conscience. He makes it perfectly clear in this narrative that he has no sympathy with Fascism or Russian Communism; he is specific in denunciation of Franco Spain; and he devotes a number of pages to explaining why he has no use for Russia's brand of dictator-imposed socialism—although he indicates he has no objection to communism of the voluntary variety. His own philosophy, not specifically stated, may be assumed to involve approval of what has been called "early Christian communism," that is, sharing on the basis of the golden rule, with full respect for private property, with emphasis on the voluntary nature of the sharing, and with a spirit of religious brotherhood.

Father Duffy relates that, after charging that a stranger in an Irish village was a Russian Communist agent, he was placed without due process of law in a mental institution. He reports many abuses there. He has decided ideas on the subject of diet and on the etiology and treatment of mental disorder; his narrative is colored by these views and by his conviction that he never was mentally ill. Father Duffy's writing is clear, simple and impressive. With his unusual views and his unusual ability to handle written English, he has produced a narrative which should be of considerable

interest to the psychiatrist, who—in spite of volumes of interview notes and formal case histories—still can never have too much material available in the way of adequate presentation of the patient's point of view.

THE MENTAL WARD BECOMES A STUDIO. By Ernest Bruce Haswell. 24 pages. Paper. Proctor & Gamble. Cincinnati, Ohio. 1944.

It is no discredit to the hobby but rather a distinct credit to advertising that soap sculpture has largely been promoted as a commercial proposition. Thus we do not intend to suggest filing in the wastebasket by noting that the present pamphlet is a piece of advertising and that copies presumably can be obtained by writing to the soap manufacturers who sponsor it. Backed by these manufacturers, Mr. Haswell, a sculptor, conducted classes three times a week for nine months in the occupational therapy department of a large state mental hospital in Ohio. This pamphlet gives an unpretentious summary of what appear to have been excellent results, both in the quality of carvings and modeling produced, and therapeutically. It is of interest to occupational therapists who may not be familiar with the technique and may be of use to parents, nurses and others called upon to improvise sick-room occupational therapy.

NEWS AND COMMENT

BRITISH ARMY PSYCHIATRIST IS SALMON LECTURER

The Thomas William Salmon Memorial Lectures, sponsored by the New York Academy of Medicine, are being given again this year on the subject of military psychiatry from the point of view of a distinguished foreign psychiatrist. Brigadier General J. R. Rees, consultant psychiatrist to the British Army, will speak on Monday, Tuesday and Wednesday evenings, November 20, 21 and 22. He will present condensations of the lectures later in addresses in New Orleans; San Antonio and Houston, Texas; Los Angeles; Boston and Montreal.

Brigadier Rees has had experience in military psychiatry dating to World War I. His general topic will cover the past, present and future of psychiatry in war and peace. The subjects of his New York lectures will be "The Frontiers Extend," reviewing the experiences of the present war which have opened up new psychiatric possibilities; "Opportunities Emerge," discussing contributions and possibilities developed by war psychiatry in the way of studies of character, personality, leadership and stability; and "The Way Ahead," a peacetime future in which Brigadier Rees foresees the necessity for "psychological warfare" after physical warfare has ceased.

REHABILITATION COMMITTEE MAKES PRELIMINARY REPORT

A preliminary report on the need and demand for psychiatric care among rejectees and men discharged from the services for neuropsychiatric reasons has been made by the Committee on Psychiatric Needs in Rehabilitation, a subcommittee of the New York City Committee on Mental Hygiene, in the form of an eight-page pamphlet. The committee, headed by Sol. W. Ginsburg, M. D., as medical director, reports on 314 rejected and 309 discharged men, none of whose difficulties are regarded as service-connected and all of whom are considered civilian responsibilities. The committee found that only 26 per cent of the 257 rejectees regarded as in need of psychiatric help wanted such help and that only 19 per cent were actually getting it. Of 235 discharged men considered in need of help, the percentages wanting and receiving it were 25 and 16. The committee finds the disparity so great between available resources for psychiatric aid to these men and the need for it that, "If anything effective is to be achieved there must be an immediate maximal coordinated effort which will include every resource in the community."

DR. SPENCER L. DAWES IS DEAD AT AGE OF 80

Spencer L. Dawes, M. D., who retired in 1935 as medical examiner in the Department of Mental Hygiene after holding that position for 16 years, died in Kingston on July 13 at the age of 80. He had been active in problems dealing with the alien mentally ill since Governor Dix appointed him as special commissioner to inquire into the question in 1912. On creation by the Legislature of the Commission on Federal Legislation for Alien Insane, he became executive officer and secretary of the body.

Dr. Dawes was among those responsible for the system of examining prospective immigrants, not after arrival in the United States but at their foreign ports of embarkation. Dr. Dawes was a graduate of Bellevue Medical College in 1887 and practised in Saugerties and Albany before his appointment as medical examiner. He went to Kingston to live when he retired. He leaves a son, Parker Dawes of Washington, and a daughter, Mrs. William L. Fanning of Ossining.

—o—**STATE HOSPITALS ARE PREPARED TO TRAIN EXTERNES
AFTER WAR**

With approval of the Department of Civil Service and the division of the budget, the Department of Mental Hygiene has informed the American Board of Psychiatry and Neurology that the New York civil State hospitals may receive from two to six full-time externes each for training following the war, the numbers actually accepted depending on the sizes of the hospitals concerned. The board, in cooperation with the Council on Medical Education and Hospitals of the American Medical Association, has been making a survey of all institutions approved for training to determine facilities for postwar medical education. It is estimated that three-fourths of the younger medical officers in the armed services wish graduate training in some field, in addition to prospective applicants from medical schools, young internes and large numbers of foreign physicians wishing psychiatric training no longer available in their own lands.

The Department has suggested that externe training include experience on the admission, shock therapy, convalescent and infirm services. Under the proposed plan, hospitals would be put to no expense for salary or maintenance, as the externes would be supported by federal grants or would pay their own way.

PSYCHOANALYTIC AND PSYCHOSOMATIC CLINIC ESTABLISHED AT COLUMBIA

A psychoanalytic and psychosomatic clinic for training and research, the first of its kind in the United States, has been established at Columbia University under the supervision of Nolan D. C. Lewis, M. D., director of the New York State Psychiatric Institute and Hospital, and executive officer of the department of psychiatry at Columbia. The clinic offers a three-year, resident, graduate course leading to the degree of doctor of medical science to qualified physicians who are graduates of approved medical schools, have completed approved internships of not less than one year and who have undergone psychoanalyses.

Willard C. Rappleye, M. D., dean of the Columbia faculty of medicine, has announced the appointment of Sandor Rado, M. D., educational director of the New York Psychoanalytic Institute and formerly a member of the teaching staff of the Berlin Psychoanalytic Institute, as clinical professor of psychiatry, director of the clinic and chief of the psychoanalytic services for in-patients and out-patients; that of David M. Levy, M. D., who has engaged in work with children for more than 20 years, as assistant clinical professor of psychiatry and chief of the psychoanalytic service for children; and that of Abram Kardiner, M. D., practising psychoanalyst and widely known writer on analytic subjects, as assistant clinical professor of psychiatry and chairman of the seminar on comparative analysis of cultures. George E. Daniels, M. D., psychiatrist and psychoanalyst, who has been professor of clinical psychiatry at Columbia since 1936, has been named chief of the psychosomatic service.

The three-year course of study, which opened in October, 1944, is combined with two years of resident graduate study in the other branches of psychiatry besides lectures, seminars, clinical conferences and supervised clinical work on both the psychoanalytic and psychosomatic services. The clinic is located at the Columbia-Presbyterian Medical Center.



DR. WEISS DIRECTS PSYCHOSOMATIC RESEARCH FUND

Dr. Edward Weiss, professor of clinical medicine, Temple University School of Medicine, has been named director of the fund—started with a \$10,000 nucleus—by the National Committee for Mental Hygiene for research in psychosomatic medicine.



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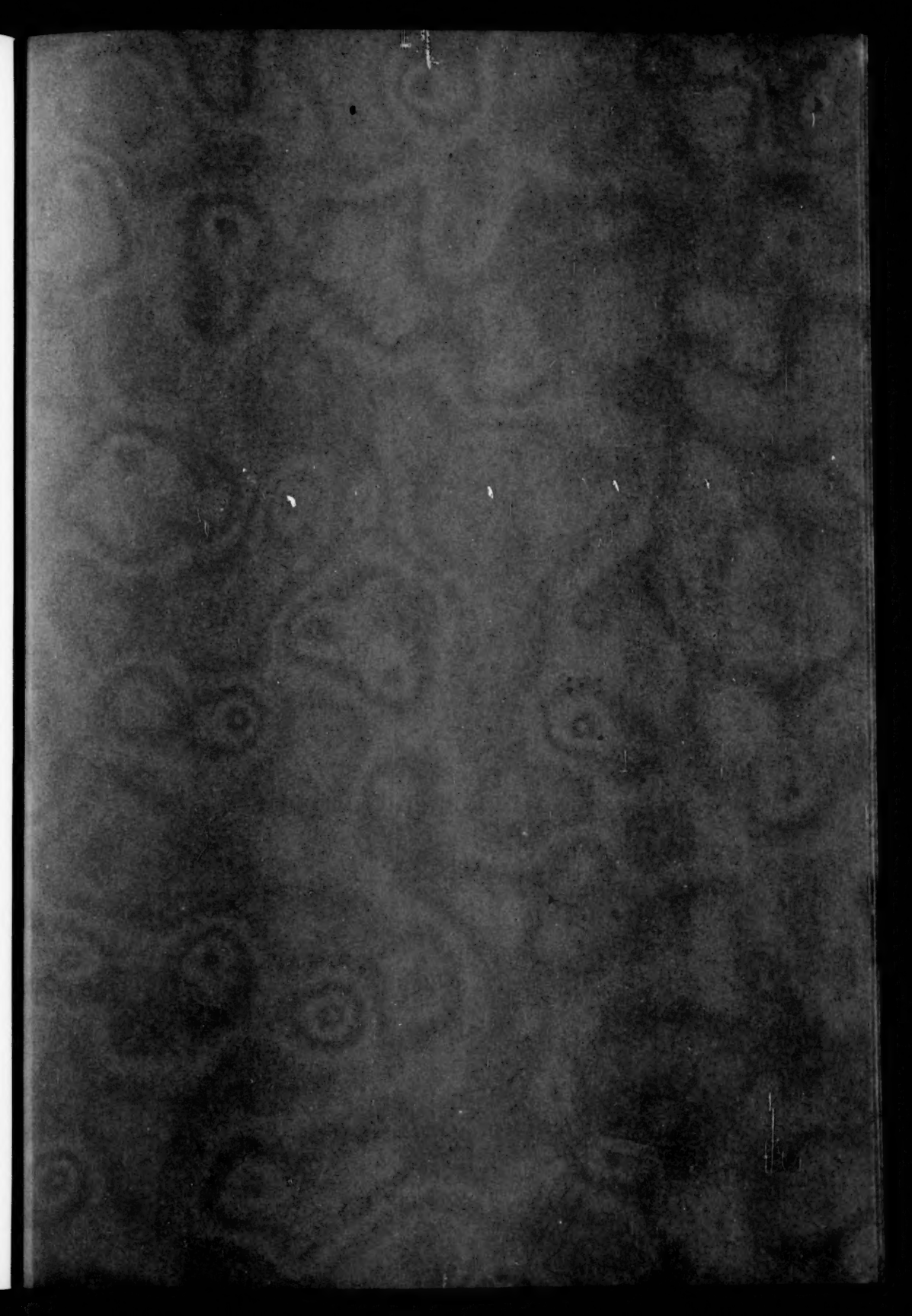
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